```
=> d l17 ibib abs hitrn 1-20

=> d que l17
L1             1 SEA FILE=REGISTRY ABB=ON  29908-03-0/RN
L2             2 SEA FILE=REGISTRY ABB=ON  ("S-ADENOSYLMETHIONINE CHLORIDE"/CN
                 OR "S-ADENOSYLMETHIONINE IODIDE"/CN)
L3             3 SEA FILE=REGISTRY ABB=ON  L1 OR L2
L4          6291 SEA FILE=HCAPLUS ABB=ON  L3 OR S(W)(ADENOSYLMETHIONINE OR
                 ADENOSYL(W)METHIONINE)
L5           329 SEA FILE=HCAPLUS ABB=ON  L4 AND (GEL? OR ?SOFTGEL? OR ?SOFT(W)G
                 EL?)
L7           148 SEA FILE=HCAPLUS ABB=ON  L5 AND (?METHOD? OR ?PROCED? OR
                 ?PROCES? OR ?TECHNIQ? OR ?MECHANISM? OR ?PREP?)
L9             2 SEA FILE=HCAPLUS ABB=ON  L7 AND ?GRANUL?
L10            3 SEA FILE=HCAPLUS ABB=ON  L7 AND ?COAT?
L11            1 SEA FILE=HCAPLUS ABB=ON  L7 AND ?CAPSUL?
L12            5 SEA FILE=HCAPLUS ABB=ON  L9 OR L10 OR L11
L13            3 SEA FILE=HCAPLUS ABB=ON  L5(L)(?METHOD?(5A)?PREP?)
L14            2 SEA FILE=HCAPLUS ABB=ON  L4 AND (GEL? OR ?SOFTGEL? OR ?SOFT(W)G
                 EL?)(3A)?CAPSUL?
L15            9 SEA FILE=HCAPLUS ABB=ON  L12 OR L13 OR L14
L16           14 SEA FILE=HCAPLUS ABB=ON  L5 AND ?METHOD?(L)?PREP?
L17           20 SEA FILE=HCAPLUS ABB=ON  L15 OR L16


L17  ANSWER 1 OF 20  HCAPLUS  COPYRIGHT 2002 ACS
ACCESSION NUMBER:         2002:595343  HCAPLUS
DOCUMENT NUMBER:          137:150228
TITLE:                    Antiinflammatory compositions and methods for therapy
                          through enhanced tissue regeneration
INVENTOR(S):              Uhrich, Kathryn E.; Macedo, Braz
PATENT ASSIGNEE(S):       USA
SOURCE:                   U.S. Pat. Appl. Publ., 17 pp.
                          CODEN: USXXCO
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
     ----------------  ----  --------       ---------------  --------
     US 2002106345      A1   20020808       US 2000-732516   20001207
AB   The invention provides methods of promoting healing through
     enhanced regeneration of tissue (e.g. hard tissue or soft tissue) by
     contacting the tissue or the surrounding tissue with an antiinflammatory
     agent, preferably in a controlled-release form, e.g. by dispersing the
     agent through a polymer matrix, appending the agent to a polymer backbone,
     or incorporating the agent directly into a biodegradable polymer backbone.
     These methods are useful in a variety of dental and orthopedic
     applications.  Expts. are presented which demonstrate that implantation of
     a film comprising an arom. polyanhydride that hydrolyzes to form a
     therapeutically useful salicylate resulted in less swelling in tissues
     adjacent to the film and a decrease in the d. of inflammatory cells as
     compared to other polyanhydride films.  Prepn. of e.g.
     poly[1,6-bis(o-carboxyphenoxy) hexane] is described.
IT   29908-03-0
     RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL
     (Biological study); USES (Uses)
```

(antiinflammatory compns. and methods for therapy through enhanced tissue regeneration)

L17 ANSWER 2 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:487392 HCAPLUS
DOCUMENT NUMBER: 137:52405
TITLE: A novel **soft-gelatin capsule** comprising **S-adenosylmethionine** and a **method** for producing the same
INVENTOR(S): Rao, Canakapalli Bhaktavatsala; Chakrabarti, Prasanta Kumar; Ravishankar, Hema
PATENT ASSIGNEE(S): Orchid Chemicals and Pharmaceuticals Limited, India
SOURCE: PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2002049637 | A1 | 20020627 | WO 2001-IN221 | 20011218 |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: IN 2000-MA1085 A 20001218
IN 2000-MA1086 A 20001218

AB The invention provides a novel **soft gelatin capsule** comprising a fill material consisting essentially of **S-adenosylmethionine** (I) salt disposed within an enteric **coated soft gelatin** film. A **capsule** contained I 200, stearic acid 84.77, **gel** oil 125, dicalcium phosphate 75.0, ascorbic acid 1.1, anhyd. citric acid 1.1, methylparaben 2.2, Pr paraben 0.22, butylated hydroxy anisole 1.1, butylated hydroxy toluene 1.1, and soybean oil q.s. 1280 mg.

IT **29908-03-0**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**soft-gelatin capsule** comprising adenosylmethionine)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 3 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:384295 HCAPLUS
DOCUMENT NUMBER: 136:390996
TITLE: Capsule compositions containing **S-adenosyl methionine** or its salts
INVENTOR(S): Uchida, Yosuke; Miya, Toyofumi; Sato, Koji; Yokoyama, Atsushi; Fukazawa, Takehito; Sugii, Yoshihisa
PATENT ASSIGNEE(S): Kohjin Co., Ltd., Japan; Miyako Kagaku Co., Ltd.;

Aliment Industry Co., Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 2002145783 | A2 | 20020522 | JP 2000-338007 | 20001106 |

AB The invention provides a capsule compn. contg. **S-adenosyl methionine** or its salt as an active ingredient, wherein the **S-adenosyl methionine** is dispersed in an oily soln., and **encapsulated** in a **gelatin**-based **capsule** shell. A dispersion contg. sunflower oil 60, glycerin fatty acid ester 2.5, beeswax 2.5, and **S-adenosyl methionine** p-toluenesulfonate disulfate 35 % was **encapsulated** a **gelatin capsule**, and tested its storage stability.

IT **29908-03-0**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(capsule compns. contg. **S-adenosyl methionine** or its salts dispersed in oily solns.)

L17 ANSWER 4 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:903816 HCAPLUS
DOCUMENT NUMBER: 136:42843
TITLE: Compositions, kits, and methods for promoting defined health benefits
INVENTOR(S): Kern, Kenneth Norman; Heisey, Matthew Thomas
PATENT ASSIGNEE(S): The Procter & Gamble Company, USA
SOURCE: PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001093847 | A2 | 20011213 | WO 2001-US17714 | 20010601 |

W: AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2000-586213 A 20000602
US 2001-760280 A 20010112

AB The present invention is directed to compns. comprising: (a) a first component selected from the group consisting of **gelatin**, cartilage, amino sugars, glycosaminoglycans, methylsulfonylmethane, precursors of methylsulfonylmethane, **S-**

**adenosylmethionine**, salts and mixts.; and (b) a second component comprising a cation source selected from the group consisting of calcium, potassium, magnesium, and mixts. and an edible acid source. The present invention is further directed to food, beverage, pharmaceutical, over-the-counter, and dietary supplement products, which comprise the present compns. The invention also relates to kits comprising the present compns. and information that use of the compn. promotes one or more of the presently defined health benefits, including joint health, bone health, cardiac health, and anti-inflammation. The present invention addnl. relates to **methods** of treating joint function, bone function, cardiac function, or inflammation comprising administering to a mammal a compn. as defined herein. Thus, hard lemon candies are **prepd.** by combining the following components as indicated: sugar 200, light corn syrup 63, water 60, lemon flavor glucosamine-HCl 16, and calcium citrate malate 14.9 g.

IT **29908-03-0**
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(compns. and kits for promoting defined health benefits)

L17 ANSWER 5 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:903788 HCAPLUS
DOCUMENT NUMBER: 136:19486
TITLE: Kits and methods for optimizing the efficacy of chondroprotective compositions
INVENTOR(S): Sarama, Robert Joseph; Harris, Judith Lynn; Spence, Kris Eugene
PATENT ASSIGNEE(S): The Procter & Gamble Company, USA
SOURCE: PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001093833 | A2 | 20011213 | WO 2001-US17721 | 20010601 |

W: AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2000-586514 A 20000602

AB The present invention is directed to kits which are useful for promoting one or more health benefits including, for example, joint health, bone health, cardiac health, and/or anti-inflammation. In particular, the present kits comprise: (a) a compn. comprising one or more chondroprotective agents and water; and (b) information selected from the group consisting of: (i) dose-form information; (ii) instruction or suggestion of ingestion of the compn. within about 4 h of ingestion of a food or beverage; and (iii) combinations thereof. The chondroprotective agent is selected from **gelatin**, cartilage, amino sugars,

glycosaminoglycans, methylsulfonylmethane, precursors of methylsulfonylmethane, **S-adenosylmethionine**, and their salts. The present invention is further directed to kits comprising: (a) a compn. comprising one or more chondroprotective agents and at least about 80% water; and (b) a sep. food or beverage. The present invention also relates to **methods** of enhancing a benefit assocd. with a compn. comprising one or more chondroprotective agents and water, the **method** comprising administering to a mammal the compn. within about 4 h of administration of a food or beverage. For example, a ready-to-drink beverage compn. was **prepd**. contg. (by wt.) glucosamine-HCl 3.2%, fructose 9.3%, thickener 0.04%, calcium citrate maleate 2.3%, natural flavors 0.02%, ascorbic acid 0.16%, citric acid 0.35%, and water up to 100%.

IT **29908-03-0**
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(kits and methods for optimizing the efficacy of chondroprotective compns.)

L17 ANSWER 6 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:903784 HCAPLUS
DOCUMENT NUMBER: 136:19484
TITLE: Low carbohydrate compositions, kits thereof, and methods of use
INVENTOR(S): Heisey, Matthew Thomas; Kern, Kenneth Norman; Spence, Kris Eugene
PATENT ASSIGNEE(S): The Procter & Gamble Company, USA
SOURCE: PCT Int. Appl., 37 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001093831 | A2 | 20011213 | WO 2001-US17716 | 20010601 |
| W: AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| US 2002132780 | A1 | 20020919 | US 2001-759965 | 20010112 |

PRIORITY APPLN. INFO.: US 2000-586514 A 20000602
US 2001-759965 A 20010112

AB The present invention relates to compns., kits, and **methods** utilized for the treatment of joint dysfunction, bone dysfunction, and/or inflammation. The compn. utilized herein are useful for those mammals experiencing painful or debilitating joint, bone, or inflammatory conditions, and are particularly suited for mammals which are diabetic or at risk for diabetes, as well as those desiring or requiring conveniently dosed chondroprotective compns. having low carbohydrate content, low caloric value and/or having a low glycemic index. In particular, the

present compns. comprise: (a) a chondroprotective agent selected from **gelatin**, cartilage, aminosugars, glycosaminoglycans, methylsulfonylmethane, precursors of methylsulfonylmethane, **S-adenosylmethionine**, and mixts. thereof; (b) a sweetening agent other than glucose, dextrose, sucrose, and fructose; and (c) at least about 10 water, by wt. of the compn. In an alternative embodiment of the present invention, the present compns. comprise: (a) a chondroprotective agent selected from **gelatin**, cartilage, aminosugars, glycosaminoglycans, methylsulfonylmethane, precursors of methylsulfonylmethane, **S-adenosylmethionine**, salts thereof, and mixts. thereof; and (b) a sweetening agent other than glucose, dextrose, sucrose, and fructose; wherein the compn. is substantially free of aspartame. Other compns. of the present invention comprise a chondroprotective agent selected from **gelatin**, cartilage, aminosugars, glycosaminoglycans, methylsulfonylmethane, precursors of methylsulfonylmethane, **S-adenosylmethionine**, and mixts. thereof, and have a low carbohydrate content, as defined herein. For example, a low-calorie ready-to-drink beverage compn. was **prepd**. contg. (by wt.) ascorbic acid 0.07%, calcium disodium EDTA 0.003%, calcium hydroxide 0.25%, citric acid 0.63%, erythritol 2.0%, fructose 2.0%, glucosamine-HCl 0.75%, malic acid 0.22%, sodium benzoate 0.002%, sodium CM-cellulose 0.03%, sucralose (25%) 0.03%, xanthan gum 0.006%, juice concs. 2.0%, colors 0.007%, flavor oils 0.04%, and water up to 100%.

IT **29908-03-0**
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(low carbohydrate compns. and kits for treatment of joint and bone dysfunction, and/or inflammation)

L17 ANSWER 7 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:669641 HCAPLUS
DOCUMENT NUMBER: 135:369627
TITLE: Adhesion of epithelial cells to fibronectin or collagen I induces alterations in gene expression via a protein kinase C-dependent **mechanism**
AUTHOR(S): Lam, Kirby; Zhang, Lianfeng; Yamada, Kenneth M.; Lafrenie, Robert M.
CORPORATE SOURCE: Northeastern Ontario Regional Cancer Centre, Sudbury, ON, P3E-5J1, Can.
SOURCE: Journal of Cellular Physiology (2001), 189(1), 79-90
CODEN: JCLLAX; ISSN: 0021-9541
PUBLISHER: Wiley-Liss, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Adhesion of human salivary gland (HSG) epithelial cells to fibronectin- or collagen I **gel-coated** substrates, mediated by .beta.1 integrins, has been shown to upregulate the expression of more than 30 genes within 3-6 h. Adhesion of HSG cells to fibronectin or collagen I for 6 h also enhanced total protein kinase C (PKC) activity by 1.8-2.3-fold. HSG cells expressed PKC-.alpha., .gamma., .delta., .epsilon., .mu., and .zeta.. Adhesion of HSG cells to fibronectin or collagen I specifically activated PKC-.gamma. and PKC-.delta.. Cytoplasmic PKC-.gamma. and PKC-.delta. became membrane-assocd., and immunopptd. PKC-.gamma. and PKC-.delta. kinase activities were enhanced 2.5-4.0-fold in HSG cells adherent to fibronectin or collagen I. In addn., adhesion of fibronectin-**coated** beads to HSG monolayers co-aggregated .beta.1 integrin and PKC-.gamma. and PKC-.delta. but not

other PKC isoforms. Thus, integrin-dependent adhesion of HSG cells to fibronectin or collagen I activated PKC-.gamma. and PKC-.delta.. The role of this PKC upregulation on adhesion-responsive gene expression was then tested. HSG cells were treated with the specific PKC inhibitor bisindolylmaleimide I, cultured on non-**precoated**, fibronectin- or collagen I-**coated** substrates, and analyzed for changes in adhesion-responsive gene expression. Bisindolylmaleimide I strongly inhibited the expression of seven adhesion-responsive genes including calnexin, decorin, **S-adenosylmethionine** decarboxylase, steroid sulfatase, and 3 mitochondrial genes. However, the expression of two adhesion-responsive genes was not affected by bisindolylmaleimide I. Treatment with bisindolylmaleimide I did not affect cell spreading and did not significantly affect the actin cytoskeleton. These data suggest that adhesion of HSG cells to fibronectin or collagen I induces PKC activity and that this induction contributes to the upregulation of a variety of adhesion-responsive genes.

REFERENCE COUNT: 74 THERE ARE 74 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 8 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:434854 HCAPLUS
DOCUMENT NUMBER: 135:51045
TITLE: Therapeutic compositions containing anti-inflammatory agents and biodegradable polyanhydrides
INVENTOR(S): Uhrich, Kathryn; Macedo, Braz
PATENT ASSIGNEE(S): Rutgers, the State University of New Jersey, USA; University of Medicine and Dentistry of New Jersey
SOURCE: PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001041753 | A2 | 20010614 | WO 2000-US33378 | 20001207 |
| WO 2001041753 | A3 | 20020912 | | |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1999-455861 A 19991207

AB **Methods** of promoting healing through enhanced regeneration of tissue (e.g. hard tissue or soft tissue) by contacting the tissue or the surrounding tissue with an antiinflammatory agent are useful in a variety of dental and orthopedic applications. Thus, poly[1,6-bis(o-carboxyphenoxy)hexane] was **prepd**. in a series of steps by the treatment of salicylic acid with 1,6-dibromohexane, and polymn. of the resulting 1,6-bis(o-carboxyphenoxy)hexane. The polymer was characterized by glass transition temp. measurements and then subjected to compression molding.

IT **29908-03-0**

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(therapeutic compns. contg. antiinflammatory agents and biodegradable polyanhydrides)

L17 ANSWER 9 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:338762 HCAPLUS
DOCUMENT NUMBER: 134:362292
TITLE: **Methods** of determining individual hypersensitivity to a pharmaceutical agent from gene expression profile
INVENTOR(S): Farr, Spencer
PATENT ASSIGNEE(S): Phase-1 Molecular Toxicology, USA
SOURCE: PCT Int. Appl., 222 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001032928 | A2 | 20010510 | WO 2000-US30474 | 20001103 |
| WO 2001032928 | A3 | 20020725 | | |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1999-165398P P 19991105
US 2000-196571P P 20000411

AB The invention discloses **methods**, gene databases, gene arrays, protein arrays, and devices that may be used to det. the hypersensitivity of individuals to a given agent, such as drug or other chem., in order to prevent toxic side effects. In one embodiment, **methods** of identifying hypersensitivity in a subject by obtaining a gene expression profile of multiple genes assocd. with hypersensitivity of the subject suspected to be hypersensitive, and identifying in the gene expression profile of the subject a pattern of gene expression of the genes assocd. with hypersensitivity are disclosed. The gene expression profile of the subject may be compared with the gene expression profile of a normal individual and a hypersensitive individual. The gene expression profile of the subject that is obtained may comprise a profile of levels of mRNA or cDNA. The gene expression profile may be obtained by using an array of nucleic acid probes for the plurality of genes assocd. with hypersensitivity. The expression of the genes predetd. to be assocd. with hypersensitivity is directly related to prevention or repair of toxic damage at the tissue, organ or system level. Gene databases arrays and app. useful for identifying hypersensitivity in a subject are also disclosed.

L17 ANSWER 10 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:679263 HCAPLUS
DOCUMENT NUMBER: 134:188814
TITLE: Re-annotating the Mycoplasma pneumoniae genome

sequence: adding value, function and reading frames
AUTHOR(S): Dandekar, Thomas; Huynen, Martijn; Regula, Jorg Thomas; Ueberle, Barbara; Zimmermann, Carl Ulrich; Andrade, Miguel A.; Doerks, Tobias; Sanchez-Pulido, Luis; Snel, Berend; Suyama, Mikita; Yuan, Yan P.; Herrmann, Richard; Bork, Peer
CORPORATE SOURCE: EMBL, Heidelberg, D-69012, Germany
SOURCE: Nucleic Acids Research (2000), 28(17), 3278-3288
CODEN: NARHAD; ISSN: 0305-1048
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Four years after the original sequence submission, we have re-annotated the genome of Mycoplasma pneumoniae to incorporate novel data. The total no. of ORFss has been increased from 677 to 688 (10 new proteins were predicted in intergenic regions, two further were newly identified by mass spectrometry and one protein ORF was dismissed) and the no. of RNAs from 39 to 42 genes. For 19 of the now 35 tRNAs and for six other functional RNAs the exact genome positions were re-annotated and two new tRNALeu and a small 200 nt RNA were identified. Sixteen protein reading frames were extended and eight shortened. For each ORF a consistent annotation vocabulary has been introduced. Annotation reasoning, annotation categories and comparisons to other published data on M. pneumoniae functional assignments are given. Exptl. evidence includes 2-dimensional **gel** electrophoresis in combination with mass spectrometry as well as gene expression data from this study. Compared to the original annotation, we increased the no. of proteins with predicted functional features from 349 to 458. The increase includes 36 new predictions and 73 protein assignments confirmed by the published literature. Furthermore, there are 23 redns. and 30 addns. with respect to the previous annotation. MRNA expression data support transcription of 184 of the functionally unassigned reading frames.
REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 11 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1993:511599 HCAPLUS
DOCUMENT NUMBER: 119:111599
TITLE: Heteronuclear nuclear magnetic resonance studies of cobalt corrinoids. 15. The structure of glutathionylcobalamin: A proton and carbon-13 two-dimensional nuclear magnetic resonance study at 600 MHz
AUTHOR(S): Brown, Kenneth L.; Zou, Xiang; Savon, Susan R.; Jacobsen, Donald W.
CORPORATE SOURCE: Dep. Chem., Mississippi State Univ., Mississippi State, MS, 39762, USA
SOURCE: Biochemistry (1993), 32(33), 8421-8
CODEN: BICHAW; ISSN: 0006-2960
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Glutathionylcobalamin (GSCbl), the complex formed between glutathione (GSH) and aquacobalamin (H2OCbl), has been implicated as an intermediate in the pathway for the formation of the cobalamin coenzymes. In chem. model studies, GSCbl has been shown to be a substrate for methylcobalamin formation in the presence of **S-adenosylmethionine** and a thiol reductant. Although GSCbl was first described in 1964, the structure of this compd., particularly the site of GSH coordination, has

been unknown. GSCbl was **prepd.** by reacting GSH (5-fold molar excess) with H2OCbl in 0.1M sodium phosphate (pH 6.5) and was purified by **gel**-permeation chromatog. on a Bio-**Gel** P2 polyacrylamide column. By use of a combination of homonuclear [homonuclear J-correlated spectroscopy (COSY), homonuclear Hartmann-Hahn spectroscopy (HOHAHA), and absorption-mode nuclear Overhauser effect spectroscopy (NOESY)] and inverse detected heteronuclear [1H-detected heteronuclear multiple-quantum coherence (HMQC) and 1H-detected multiple-bond heteronuclear multiple-quantum coherence (HMBC) spectroscopies] two-dimensional NMR **methods** at 600 MHz, the complete 1H and 13C NMR spectra of GSCbl have now been assigned. Comparison of the 1H and 13C NMR chem. shifts of the GS moiety of GSCbl to those of free GSH and GS- show that by far the largest differences occur at the cysteine .alpha. and .beta. positions. This result strongly suggests that GSH is coordinated to the cobalt atom in GSCbl via the cysteine sulfur atom.

L17 ANSWER 12 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1990:94391 HCAPLUS
DOCUMENT NUMBER: 112:94391
TITLE: Purification and general characterization of rat brain histamine-N-methyltransferase
AUTHOR(S): Rhim, Hyewhon; Choi, Myung Un
CORPORATE SOURCE: Coll. Nat. Sci., Seoul Natl. Univ., Seoul, 151-742, S. Korea
SOURCE: Han'guk Saenghwa Hakhoechi (1989), 22(4), 455-61
CODEN: KBCJAK; ISSN: 0368-4881
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Histamine N-methyltransferase (HMT; EC 2.1.1.8) was purified by (NH4)2SO4 fractionation, DEAE-cellulose chromatog., hydroxylapatite chromatog., and **gel** filtration on Sephadex G-75. The overall purifn. was 280-fold with a recovery of 8%. The activity of HMT was detd. by radioisotopic **method** with [14CH3]S-adensoylmethionine (SAM). The labeled SAM was **prepd.** by rat liver SAM synthetase with [14CH3]methionine. The specific activity of HMT was 3.9 nmol/min/mg protein at pH 8.5. The Km values of histamine and SAM were 12 and 40 .mu.M, resp. The effects of some modification reagents on HMT activity were also examd. p-Chloromercuribenzoate and N-ethylmaleimide inhibited HMT activity, whereas iodoacetic acid, iodoacetamide, and succinic anhydride activated HMT activity.

IT **29908-03-0**, S-Adenosyl-L-methionine
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with histamine methyltransferase of brain, kinetics of)

L17 ANSWER 13 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1988:586028 HCAPLUS
DOCUMENT NUMBER: 109:186028
TITLE: Enzymic synthesis of polymethylated flavonols in Chrysosplenium americanum. III. Purification and kinetic analysis of S-adenosyl-L-methionine:3-methylquercetin 7-O-methyltransferase
AUTHOR(S): Khouri, Henry E.; De Luca, Vincenzo; Ibrahim, Ragai K.
CORPORATE SOURCE: Dep. Biol., Concordia Univ., Montreal, PQ, H3G 1M8, Can.
SOURCE: Arch. Biochem. Biophys. (1988), 265(1), 1-7
CODEN: ABBIA4; ISSN: 0003-9861
DOCUMENT TYPE: Journal
LANGUAGE: English

AB An O-methyltransferase (OMT) which catalyzes the methylation of 3-methylquercetin to 3,7-dimethylquercetin, the 2nd step of Me transfers toward the biosynthesis of polymethylated flavonol glucosides, has been isolated from C. americanum shoot tips. The 7-OMT was purified by (NH4)2SO4 pptn., **gel** filtration, chromatofocusing, and ion-exchange chromatog. using a fast-protein liq. chromatog. system. Compared with previously reported **methods**, this protocol resulted in a highly purified enzyme **prepn.**, free from other OMT activities, which allowed the study of its kinetic mechanism. Substrate interaction and product inhibition patterns obtained were consistent with an ordered bi bi mechanism, where S-adenosyl-L-methionine is the 1st substrate to bind to the enzyme and S-adenosyl-L-homocysteine is the last product released. However, the results obtained did not exclude the formation of .gtoreq.1 dead-end complex(es). The similarity in kinetic characteristics of this enzyme to those of the other Chrysosplenium OMTs suggests that methyltransferases of this tissue may have evolved from a common precursor.

IT **29908-03-0**, S-Adenosyl-L-methionine
RL: RCT (Reactant)
(reaction of, with methylquercetin methyltransferase of Chrysosplenium americanum, kinetic mechanism of)

L17 ANSWER 14 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1988:524811 HCAPLUS
DOCUMENT NUMBER: 109:124811
TITLE: Phospholipid methyltransferase from Drosophila melanogaster: purification and properties
AUTHOR(S): De Sousa, Sunita M.; Krishnan, K. S.; Kenkare, U. W.
CORPORATE SOURCE: Mol. Biol. Unit, Tata Inst. Fundam. Res., Bombay, 400 005, India
SOURCE: Insect Biochem. (1988), 18(4), 377-88
CODEN: ISBCAN; ISSN: 0020-1790
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The phospholipid methyltransferase (PMTase) activity from D. melanogaster was purified .apprx.190,000-fold to give a **prepn.** with a final specific activity of .apprx.4.3 .mu.mol/min/mg protein. **Gel** filtration and HPLC **methods** show that this activity resides in a protein complex of Mw = 140,000-150,000 daltons. Since the **prepn**. gives several bands on SDS and native PAGE, subunit compn. was not detd. The activity is sensitive to protein denaturing agents such as heat and proteinases and shows inhibition by S-adenosyl homocysteine. Integrity of SH groups is essential for the stability of the enzyme. Zn is a potent inhibitor, whereas Mn and Ca have no significant effect on activity. Micromolar concns. of Mg stimulate the activity, but millimolar concns. inhibit the PMTase. There is no abs. requirement for exogenous lipid for activity, and evidence is presented that the enzyme is a lipoprotein and carries its own substrates. The incorporation of Me groups into phosphatidylcholine and phosphatidyl-N,N-dimethylethanolamine was highest around pH 7.5. A high degree of Me group incorporation into the mono-Me deriv. also occurred at a lower pH. A Michaelis-Menten plot of Me group incorporation into the total lipid fraction gives an av. Km of 120 .mu.M for **S-adenosylmethionine**. Methylation occurs on the base of the phospholipid. The ratio of the 3 methylated products formed is highly variable, with the monomethyl or the di-Me products generally being the most highly labeled under std. conditions. No sepn. of enzyme activities is obsd. during purifn., and on **gel** filtration a single peak is obtained which contains all 3 methylating activities.

Thus, while the variable ratios of the 3 products may indicate >1 enzyme, the single peak on **gel** filtration suggests these have almost identical mol. wts.; it is possible they exist as a tight complex, or that there is just 1 enzyme.

IT **29908-03-0, S-Adenosylmethionine**
RL: RCT (Reactant)
(reaction of, with phospholipid methyltransferase of Drosophila melanogaster, kinetics of)

L17 ANSWER 15 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1988:163752 HCAPLUS
DOCUMENT NUMBER: 108:163752
TITLE: Physical and kinetic properties of lysine-sensitive aspartate kinase purified from carrot cell suspension culture
AUTHOR(S): Relton, Julian M.; Bonner, Philip L. R.; Wallsgrove, Roger M.; Lea, Peter J.
CORPORATE SOURCE: Inst. Arable Crops Res., AFRC, Harpenden/Herts, AL5 2JQ, UK
SOURCE: Biochim. Biophys. Acta (1988), 953(1), 48-60
CODEN: BBACAQ; ISSN: 0006-3002
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Lysine-sensitive aspartate kinase (I) was purified >1000-fold from carrot cells grown in suspension culture. A novel staining **method** was developed to visualize I activity in **gels** after nondenaturing electrophoresis. Ests. of the mol. wt. of I by electrophoresis under nondenaturing conditions gave a value of 253,000. This was confirmed using **gel** filtration on Superoses 6 and 12. Sucrose d. gradient centrifugation gave an apparent mol. wt. of 100,000, a result attributed to dissocn. of the higher-mol.-wt. form. The pI of I was detd. by chromatofocusing. In the presence of 0.1 mM lysine, the pI was 4.43, but in the absence of lysine a value of 5.16 was obtained. The Km for aspartate was 2.35 mM and that for ATP 0.60 mM. The value for ATP was obtained from **prepn**. of the enzyme with virtually no contamination by ATPases. The inhibition of I by lysine was potentiated by **S-adenosylmethionine** in a synergistic manner. Of the range of other inhibitors tested, only Rose Bengal and p-chloromercuribenzoate gave significant inhibition of I activity. Optimum conditions for storing I as a freeze-dried powder were also detd.

IT **29908-03-0**, S-Adenosyl-L-methionine
RL: BIOL (Biological study)
(aspartate kinase of carrot inhibition by lysine response to)

L17 ANSWER 16 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1985:450132 HCAPLUS
DOCUMENT NUMBER: 103:50132
TITLE: Determination of putrescine N-methyltransferase by high performance liquid chromatography
AUTHOR(S): Feth, Friedhelm; Arfmann, Hans Adolf; Wray, Victor; Wagner, Karl G.
CORPORATE SOURCE: Ges. Biotechnol. Forsch., Braunschweig, D-3300, Fed. Rep. Ger.
SOURCE: Phytochemistry (1985), 24(5), 921-3
CODEN: PYTCAS; ISSN: 0031-9422
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A novel procedure is described for the chem. synthesis of

N-methylputrescine, the product of the title enzyme, from putrescine by formylation followed by redn. of the monoformylputrescine intermediate with LiAlH4. An assay **method** for putrescine N-methyltransferase was developed which depends on the detn. of N-methylputrescine in the presence of an excess of putrescine. This **method**, which makes use of a radiolabeled substrate unnecessary, is based on dansylation of the product followed by HPLC sepn. on a reversed-phase column. The enzyme activity of the protein peak extd. from plant material was measured after treatment by **gel** filtration on **prepacked** disposable PD 10 columns. The specific enzyme activities detd. in the ext. from the roots of Nicotiana tabacum and Datura stramonium plants and from a root culture of D. stramonium are reported. With an enzyme **prepn.** from the root culture, Km values for putrescine and **S-adenosylmethionine** (SAM) were 0.88 and 0.15 mM, resp.

IT **29908-03-0**
RL: RCT (Reactant)
(reaction of, with putrescine methyltransferase, kinetics of)

L17 ANSWER 17 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1984:422001 HCAPLUS
DOCUMENT NUMBER: 101:22001
TITLE: Biological production of microbial metabolites and enzymes
INVENTOR(S): Thommel, Juergen; Kirk, Hans Georg; Hill, Frank F.
PATENT ASSIGNEE(S): Chemische Werke Huels A.-G. , Fed. Rep. Ger.
SOURCE: Ger. Offen., 18 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| DE 3237896 | A1 | 19840419 | DE 1982-3237896 | 19821013 |
| EP 106146 | A1 | 19840425 | EP 1983-108960 | 19830910 |
| EP 106146 | B1 | 19860312 | | |
| R: DE, FR, GB, IT, NL | | | | |
| DK 8304695 | A | 19840414 | DK 1983-4695 | 19831012 |
| JP 59102389 | A2 | 19840613 | JP 1983-189407 | 19831012 |

PRIORITY APPLN. INFO.: DE 1982-3237896 19821013

AB Fermns. are carried out on solid particles in a fluidized bed reactor. Thus, bakers' yeast was mixed with 2% water-repellent silica **gel** and pressed through a 0.5-mm mesh. A precursor soln. contg. L-cysteine 10, glycine 10, L-glutamic acid 10, and NH4 lactate 30 g/L was sprayed through the **granulate** in several steps until a total of 0.2 L soln./kg yeast (wet wt.) was added. Moist air was blown through the **granulate** at 25.degree. for 1 h, during which time another 0.2 L H2O was sprayed onto the fluidized particles. After 2 more h, the percent dry matter of the yeast increased from 33 to 45.5% and the glutathione [70-18-8] content from 0.5% to 2.4% of the yeast dry wt.

IT **29908-03-0P**
RL: BMF (Bioindustrial manufacture); BIOL (Biological study); PREP (Preparation)
(manuf. of, by solid state fermn)

L17 ANSWER 18 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1982:176752 HCAPLUS

DOCUMENT NUMBER: 96:176752
TITLE: Purification and properties of glycine N-methyltransferase from rat liver
AUTHOR(S): Ogawa, Hirofumi; Fujioka, Motoji
CORPORATE SOURCE: Fac. Med., Toyama Med. Pharm. Univ., Toyama, 930-01, Japan
SOURCE: J. Biol. Chem. (1982), 257(7), 3447-52
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Glycine N-methyltransferase (EC 2.1.1.20) (I) was purified to homogeneity from rat liver. I had a mol. wt. of 132,000 by a sedimentation equil. **method**. This value was in good agreement with a value of 130,000 obtained by Sephadex G-150 chromatog. The mol. wt. of denatured I as detd. by SDS-polyacrylamide **gel** electrophoresis was 31,500. The nos. of peptides obtained by tryptic digestion and by CNBr cleavage were 25% of those expected from the contents of lysine plus arginine residues and methionine residues, resp. By Edman degrdn., phenylthiohydantoin-leucine was the only amino acid deriv. released from the enzyme. Neither sugar nor phospholipid was detected in the purified I **prepn**. Thus, rat liver I is a simple protein consisting of 4 identical subunits. I had an isoelec. pH of 6.4, and was most active at pH 9.0. From the CD spectra, an .alpha. helix content of .apprx.11% was calcd. Whereas the initial velocity as a function of glycine concn. gave Michaelis-Menten kinetics, I showed pos. cooperativity with respect to **S-adenosylmethionine**. The concns. of glycine and **S-adenosylmethionine** which gave half-max. velocity were 0.13 mM and 30 .mu.M, resp., at pH 7.4 and 25.degree..

IT **29908-03-0**
RL: RCT (Reactant)
(reaction of, with glycine methyltransferase, kinetics of)

L17 ANSWER 19 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1978:559281 HCAPLUS
DOCUMENT NUMBER: 89:159281
TITLE: The purification and properties of pig liver catechol-O-methyl transferase
AUTHOR(S): Gulliver, Peter A.; Tipton, Keith F.
CORPORATE SOURCE: Dep. Biochem., Univ. Cambridge, Cambridge, Engl.
SOURCE: Eur. J. Biochem. (1978), 88(2), 439-44
CODEN: EJBCAI; ISSN: 0014-2956
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A procedure utilizing affinity chromatog. is described for the large-scale purifn. of pig liver catechol-O-methyltransferase. The enzyme **prepd**. by this **method** appears to be homogeneous by polyacrylamide **gel** electrophoretic criteria and **gel** chromatog. It is stable for prolonged periods when stored at -5.degree. in 20% glycerol. The enzyme has a mol. wt. of .apprx.23,000 and does not appear to be a compd. of subunits, or to assoc. to any appreciable degree. The pH optimum of the enzyme activity is approx. pH 7.1-7.4; it does not catalyze the methylation of benzimidazole and has a Km of 0.64 mM and 0.056 mM towards 3,4-dihydroxyphenylacetic acid and S-adenosyl-L-methionine, resp. Amino acid anal. showed the presence of 5 cysteine residues.

IT **29908-03-0**
RL: RCT (Reactant)
(reaction of, with catechol O-methyltransferase, kinetics of)

L17 ANSWER 20 OF 20 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1978:70882 HCAPLUS
DOCUMENT NUMBER: 88:70882
TITLE: A rapid method for the purification of **S-adenosylmethionine**:protein-carboxyl O-methyltransferase by affinity chromatography
AUTHOR(S): Kim, Sangduk; Nochumson, Samuel; Chin, Walter; Paik, Woon Ki
CORPORATE SOURCE: Fels Res. Inst., Temple Univ., Philadelphia, Pa., USA
SOURCE: Anal. Biochem. (1978), 84(2), 415-22
CODEN: ANBCA2; ISSN: 0003-2697
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A simple **method** to purify **S-adenosylmethionine** :protein-carboxyl O-methyltransferase (protein methylase II) from calf brain was developed using affinity chromatog. The product of the reaction, S-adenosyl-L-homocysteine was covalently linked to Sepharose beads. This **gel** was an effective binder for protein methylase II at pH 6.2 and allowed specific removal of the enzyme by the addn. of the Me donor substrate, S-adenosyl-L-methionine to the elution buffer. One step using this affinity chromatog. column resulted in 377-fold purifn. of the enzyme and 71% recovery of the activity. Subsequent Sephadex G-100 chromatog. enable the enzyme to be purified 3000-fold from the calf brain whole homogenate. The purified enzyme showed a no. of protein methylase II activity peaks following **preparative gel** electrophoresis with one major enzyme peak.

=> d ibib abs 1-10 l19

L19 ANSWER 1 OF 10 MEDLINE DUPLICATE 1
ACCESSION NUMBER: 94271165 MEDLINE
DOCUMENT NUMBER: 94271165 PubMed ID: 8002954
TITLE: Purification and characterization of **S-adenosylmethionine**-protein-arginine N-methyltransferase from rat liver.
AUTHOR: Rawal N; Rajpurohit R; Paik W K; Kim S
CORPORATE SOURCE: Fels Institute for Cancer Research and Molecular Biology, Temple University School of Medicine, Philadelphia, PA 19140.
CONTRACT NUMBER: 5-P30-CA12227 (NCI)
AM09602 (NIADDK)
PR05417
SOURCE: BIOCHEMICAL JOURNAL, (1994 Jun 1) 300 ( Pt 2) 483-9.
Journal code: 2984726R. ISSN: 0264-6021.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199407
ENTRY DATE: Entered STN: 19940721
Last Updated on STN: 19980206
Entered Medline: 19940713
AB A protein methylase I (**S-adenosylmethionine** -protein-arginine $N_7$methyltransferase; EC 2.1.1.23), with a high specificity for recombinant heterogeneous nuclear ribonucleoprotein particle (hnRNP) protein A1, was purified from rat liver. The purification

**method** is simple and rapid; a single initial step of DEAE-cellulose DE-52 chromatography resulted in a 114-fold enrichment from the cytosol, and subsequent Sephadex G-200 chromatography and f.p.l.c. yielded a homogeneous **preparation**. Ouchterlony double-immunodiffusion analysis indicated that the rat liver enzyme is immunologically different from an analogous enzyme from the calf brain, nuclear protein/histone-specific protein methylase I [Ghosh, Paik and Kim (1988) J. Biol. Chem. 263, 19024-19033; Rajpurohit, Lee, Park, Paik and Kim (1994) J. Biol. Chem. 269, 1075-1082]. The purified enzyme has a molecular mass of 450 kDa on Superose chromatography and 110 kDa on SDS/PAGE, indicating that it is composed of four identical-size subunits. The Km values for protein A1 and S-adenosyl-L-methionine were 0.54 x 10(-6) and 6.3 x 10(-6) M respectively. S-Adenosyl-L-homocysteine and sinefungin were effective inhibitors of the enzyme with Ki values of 8.4 x 10(-6) M and 0.65 x 10(-6) M respectively. Bivalent metal ions such as Zn2+, Mn2+ and Ni2+ were particularly toxic to the enzyme; at 1 mM Zn2+, 99% of the activity was inhibited. In addition, 50% of the enzyme activity was lost by treatment with 0.12 mM p-chloromercuribenzoate, indicating a requirement for a thiol group for enzyme activity. Glycerol, a compound often used to prevent enzyme inactivation, inhibited over 80% of the activity when present in the reaction mixture at a concentration of 20%.

L19 ANSWER 2 OF 10 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 93363570 MEDLINE
DOCUMENT NUMBER: 93363570 PubMed ID: 8357793
TITLE: Heteronuclear nuclear magnetic resonance studies of cobalt corrinoids. 15. The structure of glutathionylcobalamin: a 1H and 13C two-dimensional nuclear magnetic resonance study at 600 MHz.
AUTHOR: Brown K L; Zou X; Savon S R; Jacobsen D W
CORPORATE SOURCE: Department of Chemistry, Mississippi State University, Mississippi 39762.
SOURCE: BIOCHEMISTRY, (1993 Aug 24) 32 (33) 8421-8.
Journal code: 0370623. ISSN: 0006-2960.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199309
ENTRY DATE: Entered STN: 19931015
Last Updated on STN: 19970203
Entered Medline: 19930927

AB Glutathionylcobalamin (GSCbl), the complex formed between glutathione (GSH, gamma-glutamylcysteinylglycine) and aquacobalamin (H2OCbl), has been implicated as an intermediate in the pathway for the formation of the cobalamin coenzymes. In chemical model studies, GSCbl has been shown to be a substrate for methylcobalamin formation in the presence of **S-adenosylmethionine** and a thiol reductant. Although GSCbl was first described in 1964, the structure of this compound, particularly the site of GSH coordination, has been unknown. GSCbl was **prepared** by reacting GSH (5-fold molar excess) with H2OCbl in 0.1 M sodium phosphate (pH 6.5) and was purified by **gel**-permeation chromatography on a Bio-**Gel** P2 polyacrylamide column. By use of a combination of homonuclear [homonuclear J-correlated spectroscopy (COSY), homonuclear Hartmann-Hahn spectroscopy (HOHAHA), and absorption-mode nuclear Overhauser effect spectroscopy (NOESY)] and inverse detected heteronuclear [1H-detected heteronuclear multiple-quantum coherence (HMQC) and 1H-detected multiple-bond heteronuclear multiple-quantum coherence (HMBC)

spectroscopies] two-dimensional NMR **methods** at 600 MHz, the complete 1H and 13C NMR spectra of GSCbl have now been assigned. Comparison of the 1H and 13C NMR chemical shifts of the GS moiety of GSCbl to those of free GSH and GS- shows that by far the largest differences occur at the cysteine alpha and beta positions. This result strongly suggests that GSH is coordinated to the cobalt atom in GSCbl via the cysteine sulfur atom.

L19 ANSWER 3 OF 10 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1990:130804 BIOSIS
DOCUMENT NUMBER: BA89:69615
TITLE: PURIFICATION AND GENERAL CHARACTERIZATION OF RAT BRAIN HISTAMINE-N-METHYLTRANSFERASE.
AUTHOR(S): RHIM H; CHOI M-U
CORPORATE SOURCE: DEP. CHEM., COLL. NATURAL SCI., SEOUL NATIONAL UNIV., SEOUL 151-742, KOREA.
SOURCE: KOREAN BIOCHEM J, (1989) 22 (4), 455-461.
CODEN: KBCJAK. ISSN: 0368-4881.
FILE SEGMENT: BA; OLD
LANGUAGE: English

AB Histamine-N-Methyltransferase (HMT:E.C.2.1.8) was purified by the **methods** of ammonium sulfate fractionation, DEAE-cellulose chromatography, hydroxylapatite chromatography, and **gel** filtration on Sephadex G-75. Overall purification was 280-fold with a recovery of 8%. The activity of HMT was determined by radioisotopic **method** with [14CH3]**S-adenosylmethionine**(SAM). The labelled SAM was **prepared** by rat liver SAM synthetase with [14CH3]-methionine. The specific activity of **prepared** HMT was 3.9 nmol/min/mg protein at pH 8.5. The Km values of histamine and SAM were 12 .mu.M and 40 .mu.M, respectively. It was also examined the effects of some modification reagents on the enzyme activity. p-Chloromercuribenzoate and N-ethylmaleimide inhibited the enzyme activity, while iodoacetic acid, iodoacetamide and succinic anhydride activated the enzyme activity.

L19 ANSWER 4 OF 10 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1988:440377 BIOSIS
DOCUMENT NUMBER: BA86:92475
TITLE: PHOSPHOLIPID METHYLTRANSFERASE FROM DROSOPHILA-MELANOGASTER PURIFICATION AND PROPERTIES.
AUTHOR(S): DE SOUSA S M; KRISHNAN K S; KENKARE U W
CORPORATE SOURCE: MOL. BIOL. UNIT, TATA INST. FUNDAMENTAL RES., HOMI BHABHA ROAD, BOMBAY 400 005, INDIA.
SOURCE: INSECT BIOCHEM, (1988) 18 (4), 377-388.
CODEN: ISBCAN. ISSN: 0020-1790.
FILE SEGMENT: BA; OLD
LANGUAGE: English

AB The phospholipid methyltransferase (PMTase) activity from Drosophila melanogaster has been purified .apprx. 190,000-fold to give a **preparation** with a final sp. act. .apprx. 4.3 .mu.mol/min/mg protein. **Gel** filtration and HPLC **methods** show that this activity resides in a protein complex of Mw = 140,000-150,000 dalton. Since the **preparation** gives several bands on SDS and native polyacrylamide **gel** electrophoresis, subunit compostion has not been determined. The activity is sensitive to protein denaturing agents such as heat and proteases and shows inhibition by S-adenosyl homocysteine. Integrity of sulphydryl groups is essential for the stability of the enzyme. Zinc is a potent inhibitor, while manganese and calcium have no significant effect on activity. Micromolar concentrations

of magnesium stimulate the activity, but millimolar concentrations inhibit the PMTase. There is no absolute requirement for exogenous lipid for activity, and evidence is presented that the enzyme is a lipoprotein and carries its own substrates. The incorporation of methyl groups into phosphatidylcholine and phosatidyl-N,N-dimethylethanolamine was highest around pH 7.5. A high degree of methyl group incorporation into the monomethyl derivative also occurred at a lower pH. A Michaelis-Menten plot of methyl group incorporation into the total lipid fraction gives an average Km of 120 .mu.M for **S-adenosyl methionine**. Methylation occurs on the base of the phospholipid. The ratio of the three methylated products formed is highly variable, with the monomethyl or the dimethyl products generally being the highest labelled under standard conditions. No separation of enzyme activities is observed during purification and on **gel** filtration a single peak is obtained, which shows all three methylating activities. Thus, while the variable ratios of the three products may indicate more than one enzyme, the single peak on **gel** filtration suggests that have almost identical molecular weights, it is possible they exist as a tight complex, or there is just one enzyme.

L19 ANSWER 5 OF 10 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1988:248211 BIOSIS
DOCUMENT NUMBER: BA85:126613
TITLE: PHYSICAL AND KINETIC PROPERTIES OF LYSINE-SENSITIVE ASPARTATE KINASE PURIFIED FROM CARROT CELL SUSPENSION CULTURE.
AUTHOR(S): RELTON J M; BONNER P L R; WALLSGROVE R M; LEA P J
CORPORATE SOURCE: AFRC INST. ARABLE CROPS RES., ROTHAMSTED EXP. STN., BIOCHEMISTRY DEP., HARPENDEN, HERTS, AL5 2JQ, UK.
SOURCE: BIOCHIM BIOPHYS ACTA, (1988) 953 (1), 48-60. CODEN: BBACAQ. ISSN: 0006-3002.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB Lysine-sensitive aspartate kinase was purified over a 1000-fold from carrot cells grown in suspension culture. A novel staining **method** was developed to visualize asparate kinase activity in **gels** after non-denaturing electrophoresis. Estimates of the Mr of the enzyme by electrophoresis under non-denaturing conditions gave a value of 253,000. This was confirmed using **gel** filtration on Superose 6 and 12. Sucrose density gradient centrifugation gave an apparent Mr of 100,000, a result attributed to dissociation of the higher molecular weight form. The isoelectric point of the enzyme was determined by chromatofocusing. In the presence of 0.1 mM lysine the isoelectric point was 4.43, but in the absence of lysine a value of 5.16 was obtained. The Km for aspartate was 2.35 mM and for ATP 0.60 mM. The value for ATP was obtained from **preparation** of the enzyme with virtually no contamination by ATPases. Inhibition of the enzyme by lysine was potentiated by **S-adenosylmethionine** in a synergistic manner. Of the range of other inhibitors tested, only Rose Bengal and p-chloromercuribenzoate gave significant inhibition of enzyme activity. Optimum conditions for storing the enzyme as a freeze-dried powder were also determined.

L19 ANSWER 6 OF 10 MEDLINE
ACCESSION NUMBER: 88325424 MEDLINE
DOCUMENT NUMBER: 88325424 PubMed ID: 3415239
TITLE: Enzymatic synthesis of polymethylated flavonols in Chrysosplenium americanum. III. Purification and kinetic analysis of S-adenosyl-L-methionine:3-methylquercetin

7-O-methyltransferase.
AUTHOR: Khouri H E; De Luca V; Ibrahim R K
CORPORATE SOURCE: Department of Biology, Concordia University, Montreal, Quebec, Canada.
SOURCE: ARCHIVES OF BIOCHEMISTRY AND BIOPHYSICS, (1988 Aug 15) 265 (1) 1-7.
Journal code: 0372430. ISSN: 0003-9861.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198809
ENTRY DATE: Entered STN: 19900308
Last Updated on STN: 19970203
Entered Medline: 19880928

AB An O-methyltransferase (OMT) which catalyzes the methylation of 3-methylquercetin to 3,7-dimethylquercetin, the second step of methyl transfers toward the biosynthesis of polymethylated flavonol glucosides, has been isolated from Chrysosplenium americanum shoot tips. The 7-OMT was purified by ammonium sulfate precipitation, **gel** filtration, chromatofocusing and ion-exchange chromatography using a fast protein liquid chromatography system. Compared with previously reported **methods** [1985) Arch. Biochem. Biophys. 238, 596-605), this protocol resulted in a highly purified enzyme **preparation**, free from other OMT activities, which allowed the study of its kinetic mechanism. Substrate interaction and product inhibition patterns obtained were consistent with an ordered bi bi mechanism, where S-adenosyl-L-methionine is the first substrate to bind to the enzyme and S-adenosyl-L-homocysteine is the last product released. However, the results obtained did not exclude the formation of one or more dead-end complex. The similarity in kinetic characteristics of this enzyme to those of the other Chrysosplenium OMTs suggests that methyltransferases of this tissue may have evolved from a common precursor.

L19 ANSWER 7 OF 10 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1985:373988 BIOSIS
DOCUMENT NUMBER: BA80:43980
TITLE: DETERMINATION OF PUTRESCINE-N-METHYLTRANSFERASE BY HIGH-PERFORMANCE LIQUID CHROMATOGRAPHY.
AUTHOR(S): FETH F; ARFMANN H-A; WRAY V; WAGNER K G
CORPORATE SOURCE: GESELLSCHAFT FUER BIOTECHNOL. FORSCHUNG, D-3300 BRAUNSCHWEIG, W. GERMANY.
SOURCE: PHYTOCHEMISTRY (OXF), (1985) 24 (5), 921-924.
CODEN: PYTCAS. ISSN: 0031-9422.
FILE SEGMENT: BA; OLD
LANGUAGE: English

AB A novel procedure is described for the chemical synthesis of N-methylputrescine, the product of the title enzyme. This is obtained from putrescine by formylation followed by the reduction of the monoformylputrescine intermediate with LiAlH4. An assay **method** for putrescine N-methyltransferase was developed which depends on the determination of N-methylputrescine in the presence of an excess of putrescine. This **method**, which makes use of a radiolabeled substrate unnecessary, is based on dansylation of the product followed by HPLC [high performance liquid chromatography] separation on a reversed-phase column. The enzyme activity of the protein peak extracted from plant material was measured after treatment by **gel** filtration on **prepacked** disposable PD 10 columns. The specific

enzyme activities determined in the extract from the roots of Nicotiana tabacum and Datura stramonium plants, and from a root culture of D. stramonium, are reported. With an enzyme **preparation** from the last root culture, Km values for putrescine and **S-adenosylmethionine** (SAM) were determined as 0.88 mM and 0.15 mM, respectively.

L19 ANSWER 8 OF 10 MEDLINE DUPLICATE 3
ACCESSION NUMBER: 82142504 MEDLINE
DOCUMENT NUMBER: 82142504 PubMed ID: 6801046
TITLE: Purification and properties of glycine N-methyltransferase from rat liver.
AUTHOR: Ogawa H; Fujioka M
SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (1982 Apr 10) 257 (7) 3447-52.
Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198205
ENTRY DATE: Entered STN: 19900317
Last Updated on STN: 19970203
Entered Medline: 19820527

AB Glycine N-methyltransferase (EC 2.1.1.20) has been purified to homogeneity from rat liver. The enzyme has a molecular weight of 132,000 by sedimentation equilibrium **method**. This value is in good agreement with a value of 130,000 obtained by Sephadex G-150 chromatography. The molecular weight of the denatured enzyme as determined by polyacrylamide **gel** electrophoresis in the presence of sodium dodecyl sulfate is 31,500. The numbers of peptides obtained by tryptic digestion and by cyanogen bromide cleavage are one-fourth of those expected from the contents of lysine plus arginine residues and methionine residues, respectively. By Edman degradation, phenylthiohydantoin-leucine is the only amino acid derivative released from the enzyme. Neither sugar nor phospholipid is detected in the purified **preparation**. These data indicate that the rat liver glycine N-methyltransferase is a simple protein consisting of 4 identical subunits. The enzyme has an isoelectric pH of 6.4, and is most active at pH 9.0. From the circular dichroism spectrum, an alpha helix content of about 11% is calculated. Whereas the initial velocity as a function of glycine concentration gives a Michaelis-Menten kinetics, the enzyme shows a positive cooperativity with respect to **S-adenosylmethionine**. The concentrations of glycine and **S-adenosylmethionine** which give a half-maximum velocity are 0.13 mM and 30 microM, respectively, at pH 7.4 and 25 degrees C.

L19 ANSWER 9 OF 10 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1979:126869 BIOSIS
DOCUMENT NUMBER: BA67:6869
TITLE: IMPROVED SYNTHESIS OF DECARBOXYLATED **S ADENOSYL METHIONINE** AND RELATED SULFONIUM COMPOUNDS.
AUTHOR(S): SAMEJIMA K; NAKAZAWA Y; MATSUNAGA I
CORPORATE SOURCE: TOKYO BIOCHEM. RES. INST., 3-41-8 TAKADA, TOSHIMA, TOKYO, JPN.
SOURCE: CHEM PHARM BULL (TOKYO), (1978) 26 (5), 1480-1485.
CODEN: CPBTAL. ISSN: 0009-2363.

FILE SEGMENT: BA; OLD
LANGUAGE: English
AB Decarboxylated S-adenosyl-L-methionine and its 9 analogs were **prepared** by a modified **method** of Jamieson including alkylation of the appropriate aminoalkyladenosyl thioether with alkyl iodides in a mixture of formic and acetic acids in the presence of silver perchlorate. The use of silver perchlorate allowed various combinations of the thioether and the alkyl iodide, and prompted the reaction. The sulfonium compounds were obtained as a white hygroscopic powder in 99% ethanol after purification by silica **gel** column chromatography with a solvent system of butanol-acetic acid-water (1:1:1). The chemical and physical data of the sulfonium compounds supported a general structure containing 2 mol of sulfuric acid and 0.5 mol of ethanol. The NMR data showed the existence of sulfonium diastereoisomers.

L19 ANSWER 10 OF 10 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1978:183120 BIOSIS
DOCUMENT NUMBER: BA65:70120
TITLE: A RAPID METHOD FOR THE PURIFICATION OF **S ADENOSYL METHIONINE** PROTEIN CARBOXYL-O-METHYL TRANSFERASE EC-2.1.1.24 BY AFFINITY CHROMATOGRAPHY.
AUTHOR(S): KIM S; NOCHUMSON S; CHIN W; PAIK W K
CORPORATE SOURCE: FELS RES. INST., TEMPLE UNIV., PHILADELPHIA, PA. 19140, USA.
SOURCE: ANAL BIOCHEM, (1978) 84 (2), 415-422.
CODEN: ANBCA2. ISSN: 0003-2697.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB A simple **method** to purify **S-adenosylmethionine** :protein-carboxyl O-methyltransferase (protein methylase II, EC 2.1.1.24) from calf brain was developed using affinity chromatography. The product of the reaction, S-adenosyl-L-homocysteine, which is a competitive inhibitor of the enzyme, was covalently linked to Sepharose beads. This **gel** was an effective binder for protein methylase II at pH 6.2 and allowed for specific removal of the enzyme by the addition of the methyl donor substrate, S-adenosyl-L-methionine to the elution buffer. One step using this affinity chromatography column resulted in 377-fold purification of the enzyme and 71% recovery of the activity. Subsequent Sephadex G-100 chromatography enabled the enzyme to be purified 3000-fold from the calf brain whole homogenate. The purified enzyme showed a number of protein methylase II activity peaks following **preparative gel** electrophoresis with 1 major enzyme peak.

```
=> d que l24
L1             1 SEA FILE=REGISTRY ABB=ON  29908-03-0/RN
L2             2 SEA FILE=REGISTRY ABB=ON  ("S-ADENOSYLMETHIONINE CHLORIDE"/CN
                 OR "S-ADENOSYLMETHIONINE IODIDE"/CN)
L3             3 SEA FILE=REGISTRY ABB=ON  L1 OR L2
L4          6291 SEA FILE=HCAPLUS ABB=ON  L3 OR S(W)(ADENOSYLMETHIONINE OR
                 ADENOSYL(W)METHIONINE)
L5           329 SEA FILE=HCAPLUS ABB=ON  L4 AND (GEL? OR ?SOFTGEL? OR ?SOFT(W)G
                 EL?)
L18           14 SEA L5 AND ?METHOD?(L) ?PREP?
L19           10 DUP REMOVE L18 (4 DUPLICATES REMOVED)
L22            4 SEA L5 AND ?CAPSUL?
L24           14 SEA L19 OR L22
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=> d ibib abs 1-14 l24

L24 ANSWER 1 OF 14 MEDLINE
ACCESSION NUMBER: 94271165 MEDLINE
DOCUMENT NUMBER: 94271165 PubMed ID: 8002954
TITLE: Purification and characterization of **S-adenosylmethionine**-protein-arginine N-methyltransferase from rat liver.
AUTHOR: Rawal N; Rajpurohit R; Paik W K; Kim S
CORPORATE SOURCE: Fels Institute for Cancer Research and Molecular Biology, Temple University School of Medicine, Philadelphia, PA 19140.
CONTRACT NUMBER: 5-P30-CA12227 (NCI)
AM09602 (NIADDK)
PR05417
SOURCE: BIOCHEMICAL JOURNAL, (1994 Jun 1) 300 ( Pt 2) 483-9.
Journal code: 2984726R. ISSN: 0264-6021.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199407
ENTRY DATE: Entered STN: 19940721
Last Updated on STN: 19980206
Entered Medline: 19940713

AB A protein methylase I (**S-adenosylmethionine**-protein-arginine N-methyltransferase; EC 2.1.1.23), with a high specificity for recombinant heterogeneous nuclear ribonucleoprotein particle (hnRNP) protein A1, was purified from rat liver. The purification **method** is simple and rapid; a single initial step of DEAE-cellulose DE-52 chromatography resulted in a 114-fold enrichment from the cytosol, and subsequent Sephadex G-200 chromatography and f.p.l.c. yielded a homogeneous **preparation**. Ouchterlony double-immunodiffusion analysis indicated that the rat liver enzyme is immunologically different from an analogous enzyme from the calf brain, nuclear protein/histone-specific protein methylase I [Ghosh, Paik and Kim (1988) J. Biol. Chem. 263, 19024-19033; Rajpurohit, Lee, Park, Paik and Kim (1994) J. Biol. Chem. 269, 1075-1082]. The purified enzyme has a molecular mass of 450 kDa on Superose chromatography and 110 kDa on SDS/PAGE, indicating that it is composed of four identical-size subunits. The Km values for protein A1 and S-adenosyl-L-methionine were 0.54 x 10(-6) and 6.3 x 10(-6) M respectively. S-Adenosyl-L-homocysteine and sinefungin were effective inhibitors of the enzyme with Ki values of 8.4 x 10(-6) M and 0.65 x 10(-6) M respectively. Bivalent metal ions such as Zn2+, Mn2+ and Ni2+ were particularly toxic to the enzyme; at 1 mM Zn2+, 99% of the activity was inhibited. In addition, 50% of the enzyme activity was lost by treatment with 0.12 mM p-chloromercuribenzoate, indicating a requirement for a thiol group for enzyme activity. Glycerol, a compound often used to prevent enzyme inactivation, inhibited over 80% of the activity when present in the reaction mixture at a concentration of 20%.

L24 ANSWER 2 OF 14 MEDLINE
ACCESSION NUMBER: 93363570 MEDLINE
DOCUMENT NUMBER: 93363570 PubMed ID: 8357793
TITLE: Heteronuclear nuclear magnetic resonance studies of cobalt corrinoids. 15. The structure of glutathionylcobalamin: a

1H and 13C two-dimensional nuclear magnetic resonance study at 600 MHz.
AUTHOR: Brown K L; Zou X; Savon S R; Jacobsen D W
CORPORATE SOURCE: Department of Chemistry, Mississippi State University, Mississippi 39762.
SOURCE: BIOCHEMISTRY, (1993 Aug 24) 32 (33) 8421-8.
Journal code: 0370623. ISSN: 0006-2960.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199309
ENTRY DATE: Entered STN: 19931015
Last Updated on STN: 19970203
Entered Medline: 19930927

AB Glutathionylcobalamin (GSCbl), the complex formed between glutathione (GSH, gamma-glutamylcysteinylglycine) and aquacobalamin (H2OCbl), has been implicated as an intermediate in the pathway for the formation of the cobalamin coenzymes. In chemical model studies, GSCbl has been shown to be a substrate for methylcobalamin formation in the presence of **S-adenosylmethionine** and a thiol reductant. Although GSCbl was first described in 1964, the structure of this compound, particularly the site of GSH coordination, has been unknown. GSCbl was **prepared** by reacting GSH (5-fold molar excess) with H2OCbl in 0.1 M sodium phosphate (pH 6.5) and was purified by **gel**-permeation chromatography on a Bio-**Gel** P2 polyacrylamide column. By use of a combination of homonuclear [homonuclear J-correlated spectroscopy (COSY), homonuclear Hartmann-Hahn spectroscopy (HOHAHA), and absorption-mode nuclear Overhauser effect spectroscopy (NOESY)] and inverse detected heteronuclear [1H-detected heteronuclear multiple-quantum coherence (HMQC) and 1H-detected multiple-bond heteronuclear multiple-quantum coherence (HMBC) spectroscopies] two-dimensional NMR **methods** at 600 MHz, the complete 1H and 13C NMR spectra of GSCbl have now been assigned. Comparison of the 1H and 13C NMR chemical shifts of the GS moiety of GSCbl to those of free GSH and GS- shows that by far the largest differences occur at the cysteine alpha and beta positions. This result strongly suggests that GSH is coordinated to the cobalt atom in GSCbl via the cysteine sulfur atom.

L24 ANSWER 3 OF 14 MEDLINE
ACCESSION NUMBER: 88325424 MEDLINE
DOCUMENT NUMBER: 88325424 PubMed ID: 3415239
TITLE: Enzymatic synthesis of polymethylated flavonols in Chrysosplenium americanum. III. Purification and kinetic analysis of S-adenosyl-L-methionine:3-methylquercetin 7-O-methyltransferase.
AUTHOR: Khouri H E; De Luca V; Ibrahim R K
CORPORATE SOURCE: Department of Biology, Concordia University, Montreal, Quebec, Canada.
SOURCE: ARCHIVES OF BIOCHEMISTRY AND BIOPHYSICS, (1988 Aug 15) 265 (1) 1-7.
Journal code: 0372430. ISSN: 0003-9861.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198809
ENTRY DATE: Entered STN: 19900308

Last Updated on STN: 19970203
Entered Medline: 19880928

AB An O-methyltransferase (OMT) which catalyzes the methylation of 3-methylquercetin to 3,7-dimethylquercetin, the second step of methyl transfers toward the biosynthesis of polymethylated flavonol glucosides, has been isolated from Chrysosplenium americanum shoot tips. The 7-OMT was purified by ammonium sulfate precipitation, **gel** filtration, chromatofocusing and ion-exchange chromatography using a fast protein liquid chromatography system. Compared with previously reported **methods** [1985) Arch. Biochem. Biophys. 238, 596-605), this protocol resulted in a highly purified enzyme **preparation**, free from other OMT activities, which allowed the study of its kinetic mechanism. Substrate interaction and product inhibition patterns obtained were consistent with an ordered bi bi mechanism, where S-adenosyl-L-methionine is the first substrate to bind to the enzyme and S-adenosyl-L-homocysteine is the last product released. However, the results obtained did not exclude the formation of one or more dead-end complex. The similarity in kinetic characteristics of this enzyme to those of the other Chrysosplenium OMTs suggests that methyltransferases of this tissue may have evolved from a common precursor.

L24 ANSWER 4 OF 14 MEDLINE
ACCESSION NUMBER: 82142504 MEDLINE
DOCUMENT NUMBER: 82142504 PubMed ID: 6801046
TITLE: Purification and properties of glycine N-methyltransferase from rat liver.
AUTHOR: Ogawa H; Fujioka M
SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (1982 Apr 10) 257 (7) 3447-52.
Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198205
ENTRY DATE: Entered STN: 19900317
Last Updated on STN: 19970203
Entered Medline: 19820527

AB Glycine N-methyltransferase (EC 2.1.1.20) has been purified to homogeneity from rat liver. The enzyme has a molecular weight of 132,000 by sedimentation equilibrium **method**. This value is in good agreement with a value of 130,000 obtained by Sephadex G-150 chromatography. The molecular weight of the denatured enzyme as determined by polyacrylamide **gel** electrophoresis in the presence of sodium dodecyl sulfate is 31,500. The numbers of peptides obtained by tryptic digestion and by cyanogen bromide cleavage are one-fourth of those expected from the contents of lysine plus arginine residues and methionine residues, respectively. By Edman degradation, phenylthiohydantoin-leucine is the only amino acid derivative released from the enzyme. Neither sugar nor phospholipid is detected in the purified **preparation**. These data indicate that the rat liver glycine N-methyltransferase is a simple protein consisting of 4 identical subunits. The enzyme has an isoelectric pH of 6.4, and is most active at pH 9.0. From the circular dichroism spectrum, an alpha helix content of about 11% is calculated. Whereas the initial velocity as a function of glycine concentration gives a Michaelis-Menten kinetics, the enzyme shows a positive cooperativity with respect to **S-adenosylmethionine**. The concentrations of glycine and **S-adenosylmethionine** which give a

half-maximum velocity are 0.13 mM and 30 microM, respectively, at pH 7.4 and 25 degrees C.

L24 ANSWER 5 OF 14 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1990:130804 BIOSIS
DOCUMENT NUMBER: BA89:69615
TITLE: PURIFICATION AND GENERAL CHARACTERIZATION OF RAT BRAIN HISTAMINE-N-METHYLTRANSFERASE.
AUTHOR(S): RHIM H; CHOI M-U
CORPORATE SOURCE: DEP. CHEM., COLL. NATURAL SCI., SEOUL NATIONAL UNIV., SEOUL 151-742, KOREA.
SOURCE: KOREAN BIOCHEM J, (1989) 22 (4), 455-461.
CODEN: KBCJAK. ISSN: 0368-4881.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB Histamine-N-Methyltransferase (HMT:E.C.2.1.8) was purified by the **methods** of ammonium sulfate fractionation, DEAE-cellulose chromatography, hydroxylapatite chromatography, and **gel** filtration on Sephadex G-75. Overall purification was 280-fold with a recovery of 8%. The activity of HMT was determined by radioisotopic **method** with [14CH3]**S-adenosylmethionine**(SAM). The labelled SAM was **prepared** by rat liver SAM synthetase with [14CH3]-methionine. The specific activity of **prepared** HMT was 3.9 nmol/min/mg protein at pH 8.5. The Km values of histamine and SAM were 12 .mu.M and 40 .mu.M, respectively. It was also examined the effects of some modification reagents on the enzyme activity. p-Chloromercuribenzoate and N-ethylmaleimide inhibited the enzyme activity, while iodoacetic acid, iodoacetamide and succinic anhydride activated the enzyme activity.

L24 ANSWER 6 OF 14 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1988:440377 BIOSIS
DOCUMENT NUMBER: BA86:92475
TITLE: PHOSPHOLIPID METHYLTRANSFERASE FROM DROSOPHILA-MELANOGASTER PURIFICATION AND PROPERTIES.
AUTHOR(S): DE SOUSA S M; KRISHNAN K S; KENKARE U W
CORPORATE SOURCE: MOL. BIOL. UNIT, TATA INST. FUNDAMENTAL RES., HOMI BHABHA ROAD, BOMBAY 400 005, INDIA.
SOURCE: INSECT BIOCHEM, (1988) 18 (4), 377-388.
CODEN: ISBCAN. ISSN: 0020-1790.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB The phospholipid methyltransferase (PMTase) activity from Drosophila melanogaster has been purified .apprx. 190,000-fold to give a **preparation** with a final sp. act. .apprx. 4.3 .mu.mol/min/mg protein. **Gel** filtration and HPLC **methods** show that this activity resides in a protein complex of Mw = 140,000-150,000 dalton. Since the **preparation** gives several bands on SDS and native polyacrylamide **gel** electrophoresis, subunit compostion has not been determined. The activity is sensitive to protein denaturing agents such as heat and proteases and shows inhibition by S-adenosyl homocysteine. Integrity of sulphydryl groups is essential for the stability of the enzyme. Zinc is a potent inhibitor, while manganese and calcium have no significant effect on activity. Micromolar concentrations of magnesium stimulate the activity, but millimolar concentrations inhibit the PMTase. There is no absolute requirement for exogenous lipid for activity, and evidence is presented that the enzyme is a lipoprotein and carries its own substrates. The incorporation of methyl groups into phosphatidylcholine and phosatidyl-N,N-dimethylethanolamine was highest

around pH 7.5. A high degree of methyl group incorporation into the monomethyl derivative also occurred at a lower pH. A Michaelis-Menten plot of methyl group incorporation into the total lipid fraction gives an average Km of 120 .mu.M for **S-adenosyl methionine**. Methylation occurs on the base of the phospholipid. The ratio of the three methylated products formed is highly variable, with the monomethyl or the dimethyl products generally being the highest labelled under standard conditions. No separation of enzyme activities is observed during purification and on **gel** filtration a single peak is obtained, which shows all three methylating activities. Thus, while the variable ratios of the three products may indicate more than one enzyme, the single peak on **gel** filtration suggests that have almost identical molecular weights, it is possible they exist as a tight complex, or there is just one enzyme.

L24 ANSWER 7 OF 14 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1988:248211 BIOSIS
DOCUMENT NUMBER: BA85:126613
TITLE: PHYSICAL AND KINETIC PROPERTIES OF LYSINE-SENSITIVE ASPARTATE KINASE PURIFIED FROM CARROT CELL SUSPENSION CULTURE.
AUTHOR(S): RELTON J M; BONNER P L R; WALLSGROVE R M; LEA P J
CORPORATE SOURCE: AFRC INST. ARABLE CROPS RES., ROTHAMSTED EXP. STN., BIOCHEMISTRY DEP., HARPENDEN, HERTS, AL5 2JQ, UK.
SOURCE: BIOCHIM BIOPHYS ACTA, (1988) 953 (1), 48-60.
CODEN: BBACAQ. ISSN: 0006-3002.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB Lysine-sensitive aspartate kinase was purified over a 1000-fold from carrot cells grown in suspension culture. A novel staining **method** was developed to visualize asparate kinase activity in **gels** after non-denaturing electrophoresis. Estimates of the Mr of the enzyme by electrophoresis under non-denaturing conditions gave a value of 253,000. This was confirmed using **gel** filtration on Superose 6 and 12. Sucrose density gradient centrifugation gave an apparent Mr of 100,000, a result attributed to dissociation of the higher molecular weight form. The isoelectric point of the enzyme was determined by chromatofocusing. In the presence of 0.1 mM lysine the isoelectric point was 4.43, but in the absence of lysine a value of 5.16 was obtained. The Km for aspartate was 2.35 mM and for ATP 0.60 mM. The value for ATP was obtained from **preparation** of the enzyme with virtually no contamination by ATPases. Inhibition of the enzyme by lysine was potentiated by **S-adenosylmethionine** in a synergistic manner. Of the range of other inhibitors tested, only Rose Bengal and p-chloromercuribenzoate gave significant inhibition of enzyme activity. Optimum conditions for storing the enzyme as a freeze-dried powder were also determined.

L24 ANSWER 8 OF 14 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1985:373988 BIOSIS
DOCUMENT NUMBER: BA80:43980
TITLE: DETERMINATION OF PUTRESCINE-N-METHYLTRANSFERASE BY HIGH-PERFORMANCE LIQUID CHROMATOGRAPHY.
AUTHOR(S): FETH F; ARFMANN H-A; WRAY V; WAGNER K G
CORPORATE SOURCE: GESELLSCHAFT FUER BIOTECHNOL. FORSCHUNG, D-3300 BRAUNSCHWEIG, W. GERMANY.
SOURCE: PHYTOCHEMISTRY (OXF), (1985) 24 (5), 921-924.
CODEN: PYTCAS. ISSN: 0031-9422.
FILE SEGMENT: BA; OLD

LANGUAGE: English
AB A novel procedure is described for the chemical synthesis of N-methylputrescine, the product of the title enzyme. This is obtained from putrescine by formylation followed by the reduction of the monoformylputrescine intermediate with LiAlH4. An assay **method** for putrescine N-methyltransferase was developed which depends on the determination of N-methylputrescine in the presence of an excess of putrescine. This **method**, which makes use of a radiolabeled substrate unnecessary, is based on dansylation of the product followed by HPLC [high performance liquid chromatography] separation on a reversed-phase column. The enzyme activity of the protein peak extracted from plant material was measured after treatment by **gel** filtration on **prepacked** disposable PD 10 columns. The specific enzyme activities determined in the extract from the roots of Nicotiana tabacum and Datura stramonium plants, and from a root culture of D. stramonium, are reported. With an enzyme **preparation** from the last root culture, Km values for putrescine and **S-adenosylmethionine** (SAM) were determined as 0.88 mM and 0.15 mM, respectively.

L24 ANSWER 9 OF 14 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1979:126869 BIOSIS
DOCUMENT NUMBER: BA67:6869
TITLE: IMPROVED SYNTHESIS OF DECARBOXYLATED **S ADENOSYL METHIONINE** AND RELATED SULFONIUM COMPOUNDS.
AUTHOR(S): SAMEJIMA K; NAKAZAWA Y; MATSUNAGA I
CORPORATE SOURCE: TOKYO BIOCHEM. RES. INST., 3-41-8 TAKADA, TOSHIMA, TOKYO, JPN.
SOURCE: CHEM PHARM BULL (TOKYO), (1978) 26 (5), 1480-1485. CODEN: CPBTAL. ISSN: 0009-2363.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB Decarboxylated S-adenosyl-L-methionine and its 9 analogs were **prepared** by a modified **method** of Jamieson including alkylation of the appropriate aminoalkyladenosyl thioether with alkyl iodides in a mixture of formic and acetic acids in the presence of silver perchlorate. The use of silver perchlorate allowed various combinations of the thioether and the alkyl iodide, and prompted the reaction. The sulfonium compounds were obtained as a white hygroscopic powder in 99% ethanol after purification by silica **gel** column chromatography with a solvent system of butanol-acetic acid-water (1:1:1). The chemical and physical data of the sulfonium compounds supported a general structure containing 2 mol of sulfuric acid and 0.5 mol of ethanol. The NMR data showed the existence of sulfonium diastereoisomers.

L24 ANSWER 10 OF 14 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1978:183120 BIOSIS
DOCUMENT NUMBER: BA65:70120
TITLE: A RAPID METHOD FOR THE PURIFICATION OF **S ADENOSYL METHIONINE** PROTEIN CARBOXYL-O-METHYL TRANSFERASE EC-2.1.1.24 BY AFFINITY CHROMATOGRAPHY.
AUTHOR(S): KIM S; NOCHUMSON S; CHIN W; PAIK W K
CORPORATE SOURCE: FELS RES. INST., TEMPLE UNIV., PHILADELPHIA, PA. 19140, USA.
SOURCE: ANAL BIOCHEM, (1978) 84 (2), 415-422. CODEN: ANBCA2. ISSN: 0003-2697.

FILE SEGMENT: BA; OLD
LANGUAGE: English
AB A simple **method** to purify **S-adenosylmethionine** :protein-carboxyl O-methyltransferase (protein methylase II, EC 2.1.1.24) from calf brain was developed using affinity chromatography. The product of the reaction, S-adenosyl-L-homocysteine, which is a competitive inhibitor of the enzyme, was covalently linked to Sepharose beads. This **gel** was an effective binder for protein methylase II at pH 6.2 and allowed for specific removal of the enzyme by the addition of the methyl donor substrate, S-adenosyl-L-methionine to the elution buffer. One step using this affinity chromatography column resulted in 377-fold purification of the enzyme and 71% recovery of the activity. Subsequent Sephadex G-100 chromatography enabled the enzyme to be purified 3000-fold from the calf brain whole homogenate. The purified enzyme showed a number of protein methylase II activity peaks following **preparative gel** electrophoresis with 1 major enzyme peak.

L24 ANSWER 11 OF 14 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 94272996 EMBASE
DOCUMENT NUMBER: 1994272996
TITLE: Heterologous expression of the bchM gene product from Rhodobacter **capsulatus** and demonstration that it encodes S-adenosyl-L-methionine:Mg-. protoporphyrin IX methyltransferase.
AUTHOR: Bollivar D.W.; Jiang Z.-Y.; Bauer C.E.; Beale S.I.
CORPORATE SOURCE: Division of Biology and Medicine, Brown University,Providence, RI 02912, United States
SOURCE: Journal of Bacteriology, (1994) 176/17 (5290-5296). ISSN: 0021-9193 CODEN: JOBAAY
COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 004 Microbiology
LANGUAGE: English
SUMMARY LANGUAGE: English
AB The bacteriochlorophyll biosynthesis gene, bchM, from Rhodobacter **capsulatus** was previously believed to code for a polypeptide involved in formation of the cyclopentone ring of protochlorophyllide from Mg- protoporphyrin IX monomethyl ester. In this study, R. **capsulatus** bchM was expressed in Escherichia coli and the gene product was subsequently demonstrated by enzymatic analysis to catalyze methylation of Mg- protoporphyrin IX to form Mg-protoporphyrin IX monomethyl ester. Activity required the substrates Mg-protoporphyrin IX and S-adenosyl-L-methionine. 14C-labeled product was formed in incubations containing 14C-methyl- labeled S-adenosyl-L-methionine. On the basis of these and previous results, we also conclude that the bchH gene, which was previously reported to code for Mg-protoporphyrin IX methyltransferase, is most likely involved in the Mg chelation step.

L24 ANSWER 12 OF 14 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2002-602515 [65] WPIDS
DOC. NO. CPI: C2002-170599
TITLE: **Capsule** formulation for use as health food or pharmaceuticals, contains liquid containing **S-adenosylmethionine** or its salt, dispersed or suspended in oil solution, and sealed in **gelatin capsule**.
DERWENT CLASS: B02 B07
PATENT ASSIGNEE(S): (ARIM-N) ARIMENTO KOGYO KK; (KOJK) KOHJIN CO LTD;

(MIYA-N) MIYAKO KAGAKU KK
COUNTRY COUNT: 1
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| JP 2002145783 A | | 20020522 | (200265)* | | 6 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| JP 2002145783 A | | JP 2000-338007 | 20001106 |

PRIORITY APPLN. INFO: JP 2000-338007 20001106
AN 2002-602515 [65] WPIDS
AB JP2002145783 A UPAB: 20021010
NOVELTY - A **capsule** formulation contains liquid containing **S-adenosylmethionine** or its salt, dispersed or suspended in the oil solution. The resulting suspension is sealed in a **gelatin capsule**.
ACTIVITY - Antidepressant; antiarthritic; hepatotropic. No test details are given for the above mentioned activity.
MECHANISM OF ACTION - None given.
USE - For producing **S-adenosylmethionine** or its salt, containing **capsule** formulation which is used as health food or pharmaceutical product. **S-adenosylmethionine** or its salt, improves depression, arthritis, liver disease (liver cirrhosis).
ADVANTAGE - **S-adenosylmethionine** or its salt is easily dispersed in edible oil. The **capsule** formulation is stable as the **capsule** outer layer hinders the absorption of atmospheric moisture content by **S-adenosylmethionine** or its salt (which is hydroscopic).
Dwg.0/0

L24 ANSWER 13 OF 14 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2002-038140 [05] WPIDS
DOC. NO. CPI: C2002-011039
TITLE: Pharmaceutical composition for increasing of mitochondria DNA copy number.
DERWENT CLASS: A96 B05
INVENTOR(S): KIM, Y M; LEE, H G
PATENT ASSIGNEE(S): (MITO-N) MITOCON LTD
COUNTRY COUNT: 1
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| KR 2001045285 A | | 20010605 | (200205)* | | 1 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| KR 2001045285 A | | KR 1999-48527 | 19991104 |

PRIORITY APPLN. INFO: KR 1999-48527 19991104
AN 2002-038140 [05] WPIDS
AB KR2001045285 A UPAB: 20020123
NOVELTY - A pharmaceutical composition for increasing mitochondria DNA copy number containing **S-adenosyl methionine** (SAM or AdoMet) is provided, which is useful for prevention and treatment of side effect accompanied by anticancer treatment and insulin-resistance syndrome from diabetes.
DETAILED DESCRIPTION - The pharmaceutical composition for increasing of mitochondria DNA copy number can be prepared in the form of a medicine for oral(e.g., tablets, **capsules**), or an injection. The tablet for increasing mitochondria DNA copy number contains **S-adenosyl methionine** (SAM or AdoMet) as a main ingredient; and diluents (e.g., lactose, dextrose, sucrose, mannitol, sorbitol, cellulose and/or glycine), lubricants (e.g., silica, talc, stearic acid or its magnesium or calcium salt, and/or polyethylene glycol), binding agents (e.g., magnesium aluminum silicate, starch paste, **gelatin**, tragacans, methylcellulose, sodium carboxy methylcellulose and/or pycolidine), and disintegrator (e.g., starch, agar, alginic acid or its sodium salt).
Dwg.1/10

L24 ANSWER 14 OF 14 JAPIO COPYRIGHT 2002 JPO
ACCESSION NUMBER: 2002-145783 JAPIO
TITLE: **ENCAPSULATED** PHARMACEUTICAL PREPARATION CONTAINING **S-ADENOSYLMETHIONINE** OR ITS SALTS
INVENTOR: UCHIDA YOSUKE; MIYA TOYOFUMI; SATO KOJI; YOKOYAMA ATSUSHI; FUKAZAWA TAKEHITO; SUGII YOSHIHISA
PATENT ASSIGNEE(S): KOHJIN CO LTD
MIYAKO KAGAKU CO LTD
ARIMENTO KOGYO KK
PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|---|---|---|---|---|
| JP 2002145783 | A | 20020522 | Heisei | A61K031-7076 |

APPLICATION INFORMATION
STN FORMAT: JP 2000-338007 20001106
ORIGINAL: JP2000338007 Heisei
PRIORITY APPLN. INFO.: JP 2000-338007 20001106
SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2002
AN 2002-145783 JAPIO
AB PROBLEM TO BE SOLVED: To provide an **encapsulated** pharmaceutical preparation containing **S-adenosylmethionine** or its salts, capable of being easily taken by every body, and being expected that its medicinal effect is easily developed.
SOLUTION: This **encapsulated** pharmaceutical preparation is prepared by **encapsulating** a liquid in a **capsule** casing consisting mainly of **gelatin**, wherein the liquid is obtained by dispersing or suspending the **S-adenosylmethionine** or its salts in an oily liquid. A mixture which is obtained by adding an emulsifier and a thickener to an oil is preferably used as the oily liquid.
COPYRIGHT: (C)2002,JPO

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=> d ibib abs hitrn 1-27 l35

=> d que stat l35
L1             1 SEA FILE=REGISTRY ABB=ON  29908-03-0/RN
L2             2 SEA FILE=REGISTRY ABB=ON  ("S-ADENOSYLMETHIONINE CHLORIDE"/CN
                 OR "S-ADENOSYLMETHIONINE IODIDE"/CN)
L3             3 SEA FILE=REGISTRY ABB=ON  L1 OR L2
L4             1 SEA FILE=REGISTRY ABB=ON  GLYCEROL/CN
L5             1 SEA FILE=REGISTRY ABB=ON  GLYCERINE/CN
L6             1 SEA FILE=REGISTRY ABB=ON  TRIACETIN/CN
L7             1 SEA FILE=REGISTRY ABB=ON  SORBITOL/CN
L8             1 SEA FILE=REGISTRY ABB=ON  SORBITAN/CN
L9             4 SEA FILE=REGISTRY ABB=ON  L4 OR L5 OR L6 OR L7 OR L8
L10            1 SEA FILE=REGISTRY ABB=ON  "PEG 200"/CN
L11            1 SEA FILE=REGISTRY ABB=ON  "TITANIUM DIOXIDE"/CN
L12            4 SEA FILE=REGISTRY ABB=ON  "IRON OXIDE"/CN
L13            5 SEA FILE=REGISTRY ABB=ON  L11 OR L12
L14            2 SEA FILE=REGISTRY ABB=ON  ("OXIDE YELLOW 3910"/CN OR "OXIDE
                 YELLOW 3920"/CN)
L15            1 SEA FILE=REGISTRY ABB=ON  METHYLPARABEN/CN
L16            1 SEA FILE=REGISTRY ABB=ON  PROPYLPARABEN/CN
L17            2 SEA FILE=REGISTRY ABB=ON  L15 OR L16
L18         6291 SEA FILE=HCAPLUS ABB=ON  L3 OR S(W)(ADENOSYLMETHIONINE OR
                 ADENOSYL(W)METHIONINE)
L19          329 SEA FILE=HCAPLUS ABB=ON  L18 AND (GEL? OR ?SOFTGEL? OR
                 ?SOFT(W)GEL?)
L20            8 SEA FILE=HCAPLUS ABB=ON  L19 AND (?CAPSUL? OR ?DELIVER?)
L21           16 SEA FILE=HCAPLUS ABB=ON  L19 AND (L9 OR GLYCEROL? OR GLYCERIN?
                 OR TRIACETIN? OR SORBITOL? OR SORBITAN?(W)?ANHYDRID? OR
                 MANNITOL? OR ?SOFTEN?)
L22            2 SEA FILE=HCAPLUS ABB=ON  L19 AND (L10 OR (POLYETHYLENE GLYCOL
                 OR POLYETHYLENEGLYCOL)(W)200 OR PLASTICIZ?)
L23            1 SEA FILE=HCAPLUS ABB=ON  L19 AND (L13 OR TITANIUM DIOXID? OR
                 (IRON OR FE OR FER?)(W)OXID?)
L25            7 SEA FILE=HCAPLUS ABB=ON  L19 AND (L14 OR OXID?(3A)YELLOW? OR
                 ?COLOR?)
L26            2 SEA FILE=HCAPLUS ABB=ON  L19 AND (L17 OR METHYLPARABEN OR
                 PROPYLPARABEN OR (METHYL OR PROPYL)(W)PARABEN)
L27           27 SEA FILE=HCAPLUS ABB=ON  L20 OR L21 OR L22 OR L23 OR L25 OR
                 L26
L28            1 SEA FILE=REGISTRY ABB=ON  HPMCP/CN
L29            1 SEA FILE=REGISTRY ABB=ON  "2-HYDROXYPROPYL METHYL CELLULOSE
                 SUCCINATE"/CN
L30            2 SEA FILE=REGISTRY ABB=ON  "CARBOXYMETHYL CELLULOSE"/CN
L31            1 SEA FILE=REGISTRY ABB=ON  "METHYLACRYLIC ACID"/CN
L32            5 SEA FILE=REGISTRY ABB=ON  L28 OR L29 OR L30 OR L31
L33        45318 SEA FILE=HCAPLUS ABB=ON  L32 OR (HYDROXYPROPYLMETHYL(W)CELLULOS
                 ? OR HYDROXYPROPYLMETHYLCELLULOS?)(W)(PHTHALAT? OR SUCCINAT?)
                 OR HPMCP OR HPMCS OR CARBOXYMETHYLCELLULOSE OR CARBOXYMETHYL(W)
                 CELLULOSE OR CMEC OR METHYLACRYLIC ACID(3A)?POLYMER? OR
                 (?PROPENOIC ACID(3A)?METHYL)
L34            1 SEA FILE=HCAPLUS ABB=ON  L19 AND L33
L35           27 SEA FILE=HCAPLUS ABB=ON  L27 OR L34


L35  ANSWER 1 OF 27  HCAPLUS  COPYRIGHT 2002 ACS
ACCESSION NUMBER:         2002:595343  HCAPLUS
DOCUMENT NUMBER:          137:150228
```

TITLE: Antiinflammatory compositions and methods for therapy through enhanced tissue regeneration
INVENTOR(S): Uhrich, Kathryn E.; Macedo, Braz
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 17 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| US 2002106345 | A1 | 20020808 | US 2000-732516 | 20001207 |

AB The invention provides methods of promoting healing through enhanced regeneration of tissue (e.g. hard tissue or soft tissue) by contacting the tissue or the surrounding tissue with an antiinflammatory agent, preferably in a controlled-release form, e.g. by dispersing the agent through a polymer matrix, appending the agent to a polymer backbone, or incorporating the agent directly into a biodegradable polymer backbone. These methods are useful in a variety of dental and orthopedic applications. Expts. are presented which demonstrate that implantation of a film comprising an arom. polyanhydride that hydrolyzes to form a therapeutically useful salicylate resulted in less swelling in tissues adjacent to the film and a decrease in the d. of inflammatory cells as compared to other polyanhydride films. Prepn. of e.g. poly[1,6-bis(o-carboxyphenoxy) hexane] is described.

IT **29908-03-0**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antiinflammatory compns. and methods for therapy through enhanced tissue regeneration)

L35 ANSWER 2 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:487392 HCAPLUS
DOCUMENT NUMBER: 137:52405
TITLE: A novel **soft-gelatin capsule** comprising **S-adenosylmethionine** and a method for producing the same
INVENTOR(S): Rao, Canakapalli Bhaktavatsala; Chakrabarti, Prasanta Kumar; Ravishankar, Hema
PATENT ASSIGNEE(S): Orchid Chemicals and Pharmaceuticals Limited, India
SOURCE: PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2002049637 | A1 | 20020627 | WO 2001-IN221 | 20011218 |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,

UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: IN 2000-MA1085 A 20001218
IN 2000-MA1086 A 20001218

AB The invention provides a novel **soft gelatin capsule** comprising a fill material consisting essentially of **S-adenosylmethionine** (I) salt disposed within an enteric coated **soft gelatin** film. A **capsule** contained I 200, stearic acid 84.77, **gel** oil 125, dicalcium phosphate 75.0, ascorbic acid 1.1, anhyd. citric acid 1.1, **methylparaben** 2.2, **Pr paraben** 0.22, butylated hydroxy anisole 1.1, butylated hydroxy toluene 1.1, and soybean oil q.s. 1280 mg.

IT **50-70-4, Sorbitol**, biological studies **56-81-5, Glycerol**, biological studies **94-13-3, Propyl paraben 99-76-3, Methylparaben 102-76-1, Triacetin 1332-37-2, Iron oxide**, biological studies **9004-32-4, Carboxymethyl cellulose 9050-31-1**, Hydroxypropyl methyl cellulose phthalate **12441-09-7**, Sorbitan **13463-67-7, Titanium dioxide**, biological studies **25322-68-3**, Polyethylene glycol **29908-03-0 93792-59-7**, Hydroxypropyl methyl cellulose succinate
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**soft-gelatin capsule** comprising adenosylmethionine)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 3 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:425331 HCAPLUS
DOCUMENT NUMBER: 136:395959
TITLE: Antiinflammatory/analgesic method and topical composition including penetration enhancers to treat musculoskeletal disorders
INVENTOR(S): Petrus, Edward J.
PATENT ASSIGNEE(S): Advanced Medical Instruments, USA
SOURCE: U.S., 9 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| US 6399093 | B1 | 20020604 | US 1999-314829 | 19990519 |

AB A method and compn. are disclosed for the treatment of musculoskeletal disorders in mammals by the application of a topical compn. comprising a permeation enhancing amt. of one or more penetration enhancers, and one or more bio-affecting agents to provide anti-inflammatory relief and analgesia to the applied body part.

IT **29908-03-0**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(antiinflammaotry/analgesic method and topical compn. including penetration enhancers to treat musculoskeletal disorders)

IT **94-13-3, Propyl paraben 99-76-3, Methyl paraben**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(antiinflammaotry/analgesic method and topical compn. including penetration enhancers to treat musculoskeletal disorders)

REFERENCE COUNT: 82 THERE ARE 82 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 4 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:384295 HCAPLUS
DOCUMENT NUMBER: 136:390996
TITLE: **Capsule** compositions containing **S-adenosyl methionine** or its salts
INVENTOR(S): Uchida, Yosuke; Miya, Toyofumi; Sato, Koji; Yokoyama, Atsushi; Fukazawa, Takehito; Sugii, Yoshihisa
PATENT ASSIGNEE(S): Kohjin Co., Ltd., Japan; Miyako Kagaku Co., Ltd.; Aliment Industry Co., Ltd.
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| JP 2002145783 | A2 | 20020522 | JP 2000-338007 | 20001106 |

AB The invention provides a **capsule** compn. contg. **S-adenosyl methionine** or its salt as an active ingredient, wherein the **S-adenosyl methionine** is dispersed in an oily soln., and **encapsulated** in a **gelatin**-based **capsule** shell. A dispersion contg. sunflower oil 60, **glycerin** fatty acid ester 2.5, beeswax 2.5, and **S-adenosyl methionine** p-toluenesulfonate disulfate 35 % was **encapsulated** a **gelatin capsule**, and tested its storage stability.

IT **29908-03-0**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(**capsule** compns. contg. **S-adenosyl methionine** or its salts dispersed in oily solns.)

L35 ANSWER 5 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2002:181412 HCAPLUS
DOCUMENT NUMBER: 137:90760
TITLE: Protein expression during lag phase and growth initiation in Saccharomyces cerevisiae
AUTHOR(S): Brejning, Jeanette; Jespersen, Lene
CORPORATE SOURCE: Department of Dairy and Food Science, Food Microbiology, The Royal Veterinary and Agricultural University, Frederiksberg, DK-1958 C, Den.
SOURCE: International Journal of Food Microbiology (2002), 75(1-2), 27-38
CODEN: IJFMDD; ISSN: 0168-1605
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In order to obtain a better understanding of the biochem. events taking place in Saccharomyces cerevisiae during the lag phase, the proteins expressed during the first hours after inoculation were investigated by two-dimensional (2-D) **gel** electrophoresis and compared to those expressed in late respiratory growth phase. The studies were performed on a haploid strain (S288C) grown in defined minimal medium. Some of the abundant proteins, whose expression relative to total protein expression was induced during the lag phase, were identified by MALDI MS, and the expression of the corresponding genes was assessed by Northern blotting. The rate of protein synthesis was found to increase strongly during the lag phase and the no. of spots detected on 2-D **gels** increased from 502 spots just after inoculation to 1533 spots at the end of the lag phase. During the first 20 min, the no. of detectable spots was considerably reduced compared to the no. of spots detected from the yeast in respiratory growth just prior to harvest and inoculation (747 spots), indicating an immediate pausing or shutdown in synthesis of many proteins just after inoculation. In this period, the cells got rid of most of their buds. The MALDI MS-identified lag phase-induced proteins were adenosine kinase (Ado1p), whose cellular role is presently uncertain, cytosolic acetaldehyde dehydrogenase (Ald6p) and (DL)-**glycerol** -3-phosphatase 1, both involved in carbohydrate metab., a ribosomal protein (Asc1p), a fragment of the 70-kDa heat shock protein Ssb1, and translationally controlled tumor protein homolog (Ykl056cp), all involved in translation, and **S-adenosylmethionine** synthetase 1 involved in biosynthesis reactions. The level of mRNA of the corresponding genes was found to increase strongly after inoculation. yst1p. By pattern matching using previously published 2-D maps of yeast proteins, several other lag phase-induced proteins were identified. These were also proteins involved in carbohydrate metab., translation, and biosynthesis reactions. The identified proteins together with other, yet unidentified, lag phase-induced proteins are expected to be important for yeast growth initiation and could be valuable biol. markers for yeast performance. Such markers would be highly beneficial in the control and optimization of industrial fermns.

REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 6 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:903816 HCAPLUS
DOCUMENT NUMBER: 136:42843
TITLE: Compositions, kits, and methods for promoting defined health benefits
INVENTOR(S): Kern, Kenneth Norman; Heisey, Matthew Thomas
PATENT ASSIGNEE(S): The Procter & Gamble Company, USA
SOURCE: PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001093847 | A2 | 20011213 | WO 2001-US17714 | 20010601 |

W: AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX,

MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
PRIORITY APPLN. INFO.: US 2000-586213 A 20000602
US 2001-760280 A 20010112

AB The present invention is directed to compns. comprising: (a) a first component selected from the group consisting of **gelatin**, cartilage, amino sugars, glycosaminoglycans, methylsulfonylmethane, precursors of methylsulfonylmethane, **S-adenosylmethionine**, salts and mixts.; and (b) a second component comprising a cation source selected from the group consisting of calcium, potassium, magnesium, and mixts. and an edible acid source. The present invention is further directed to food, beverage, pharmaceutical, over-the-counter, and dietary supplement products, which comprise the present compns. The invention also relates to kits comprising the present compns. and information that use of the compn. promotes one or more of the presently defined health benefits, including joint health, bone health, cardiac health, and anti-inflammation. The present invention addnl. relates to methods of treating joint function, bone function, cardiac function, or inflammation comprising administering to a mammal a compn. as defined herein. Thus, hard lemon candies are prepd. by combining the following components as indicated: sugar 200, light corn syrup 63, water 60, lemon flavor glucosamine-HCl 16, and calcium citrate malate 14.9 g.

IT **29908-03-0**
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(compns. and kits for promoting defined health benefits)

L35 ANSWER 7 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:903788 HCAPLUS
DOCUMENT NUMBER: 136:19486
TITLE: Kits and methods for optimizing the efficacy of chondroprotective compositions
INVENTOR(S): Sarama, Robert Joseph; Harris, Judith Lynn; Spence, Kris Eugene
PATENT ASSIGNEE(S): The Procter & Gamble Company, USA
SOURCE: PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001093833 | A2 | 20011213 | WO 2001-US17721 | 20010601 |

W: AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,

BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
PRIORITY APPLN. INFO.: US 2000-586514 A 20000602
AB The present invention is directed to kits which are useful for promoting one or more health benefits including, for example, joint health, bone health, cardiac health, and/or anti-inflammation. In particular, the present kits comprise: (a) a compn. comprising one or more chondroprotective agents and water; and (b) information selected from the group consisting of: (i) dose-form information; (ii) instruction or suggestion of ingestion of the compn. within about 4 h of ingestion of a food or beverage; and (iii) combinations thereof. The chondroprotective agent is selected from **gelatin**, cartilage, amino sugars, glycosaminoglycans, methylsulfonylmethane, precursors of methylsulfonylmethane, **S-adenosylmethionine**, and their salts. The present invention is further directed to kits comprising: (a) a compn. comprising one or more chondroprotective agents and at least about 80% water; and (b) a sep. food or beverage. The present invention also relates to methods of enhancing a benefit assocd. with a compn. comprising one or more chondroprotective agents and water, the method comprising administering to a mammal the compn. within about 4 h of administration of a food or beverage. For example, a ready-to-drink beverage compn. was prepd. contg. (by wt.) glucosamine-HCl 3.2%, fructose 9.3%, thickener 0.04%, calcium citrate maleate 2.3%, natural flavors 0.02%, ascorbic acid 0.16%, citric acid 0.35%, and water up to 100%.
IT **29908-03-0**
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(kits and methods for optimizing the efficacy of chondroprotective compns.)

L35 ANSWER 8 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:903784 HCAPLUS
DOCUMENT NUMBER: 136:19484
TITLE: Low carbohydrate compositions, kits thereof, and methods of use
INVENTOR(S): Heisey, Matthew Thomas; Kern, Kenneth Norman; Spence, Kris Eugene
PATENT ASSIGNEE(S): The Procter & Gamble Company, USA
SOURCE: PCT Int. Appl., 37 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001093831 | A2 | 20011213 | WO 2001-US17716 | 20010601 |
| W: AE, AG, AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| US 2002132780 | A1 | 20020919 | US 2001-759965 | 20010112 |

PRIORITY APPLN. INFO.: US 2000-586514 A 20000602
US 2001-759965 A 20010112

AB The present invention relates to compns., kits, and methods utilized for the treatment of joint dysfunction, bone dysfunction, and/or inflammation. The compn. utilized herein are useful for those mammals experiencing painful or debilitating joint, bone, or inflammatory conditions, and are particularly suited for mammals which are diabetic or at risk for diabetes, as well as those desiring or requiring conveniently dosed chondroprotective compns. having low carbohydrate content, low caloric value and/or having a low glycemic index. In particular, the present compns. comprise: (a) a chondroprotective agent selected from **gelatin**, cartilage, aminosugars, glycosaminoglycans, methylsulfonylmethane, precursors of methylsulfonylmethane, **S-adenosylmethionine**, and mixts. thereof; (b) a sweetening agent other than glucose, dextrose, sucrose, and fructose; and (c) at least about 10 water, by wt. of the compn. In an alternative embodiment of the present invention, the present compns. comprise: (a) a chondroprotective agent selected from **gelatin**, cartilage, aminosugars, glycosaminoglycans, methylsulfonylmethane, precursors of methylsulfonylmethane, **S-adenosylmethionine**, salts thereof, and mixts. thereof; and (b) a sweetening agent other than glucose, dextrose, sucrose, and fructose; wherein the compn. is substantially free of aspartame. Other compns. of the present invention comprise a chondroprotective agent selected from **gelatin**, cartilage, aminosugars, glycosaminoglycans, methylsulfonylmethane, precursors of methylsulfonylmethane, **S-adenosylmethionine**, and mixts. thereof, and have a low carbohydrate content, as defined herein. For example, a low-calorie ready-to-drink beverage compn. was prepd. contg. (by wt.) ascorbic acid 0.07%, calcium disodium EDTA 0.003%, calcium hydroxide 0.25%, citric acid 0.63%, erythritol 2.0%, fructose 2.0%, glucosamine-HCl 0.75%, malic acid 0.22%, sodium benzoate 0.002%, sodium CM-cellulose 0.03%, sucralose (25%) 0.03%, xanthan gum 0.006%, juice concs. 2.0%, **colors** 0.007%, flavor oils 0.04%, and water up to 100%.

IT **50-70-4**, **Sorbitol**, biological studies **29908-03-0**
RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(low carbohydrate compns. and kits for treatment of joint and bone dysfunction, and/or inflammation)

L35 ANSWER 9 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:683289 HCAPLUS
DOCUMENT NUMBER: 135:340385
TITLE: Quantitative proteomic analysis of mouse liver response to the peroxisome proliferator diethylhexylphthalate (DEHP)
AUTHOR(S): MacDonald, Neil; Chevalier, Stephan; Tonge, Robert; Davison, Matthew; Rowlinson, Rachel; Young, Janice; Rayner, Steve; Roberts, Ruth
CORPORATE SOURCE: Syngenta Central Toxicology Laboratory, Cheshire, Alderley Park, Macclesfield, SK10 4TJ, UK
SOURCE: Archives of Toxicology (2001), 75(7), 415-424
CODEN: ARTODN; ISSN: 0340-5761
PUBLISHER: Springer-Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Peroxisome proliferators (PPs) are a diverse group of chems. that cause hepatic proliferation, suppression of apoptosis, peroxisome proliferation

and liver tumors in rodents. The biochem. response to PPs involves changes in the expression of peroxisomal .beta.-oxidn. enzymes and fatty acid transport proteins such as acyl-CoA oxidase and liver fatty acid binding protein. The response to PPs is mediated by the peroxisome proliferator-activated receptor .alpha. (PPAR.alpha.) and the livers of PPAR.alpha.-null transgenic mice do not develop tumors in response to PPs. In order to identify the mol. pathways underlying the adverse effects of PPs in rodent liver, we carried out two-dimensional differential **gel** electrophoresis to provide quant. proteomic analyses of diethylhexylphthalate (DEHP)-treated wild-type or PPAR.alpha.-null mouse livers. Since tumorigenesis is both PP- and PPAR.alpha.-dependent, analyses were focused on these changes. Fifty-nine proteins were identified where altered expression was both PPAR.alpha.- and PP-dependent. In addn., six proteins regulated by the deletion of PPAR.alpha. were identified, possibly indicating an adaptive change in response to the loss of this receptor. The proteins that we identified as being regulated by PPAR.alpha. are known to be involved in lipid metab. pathways, but also in amino acid and carbohydrate metab., mitochondrial bioenergetics and in stress responses including several genes not previously reported to be regulated by PPAR.alpha.. These data provide novel insights into the pathways utilized by PPs and may assist in the identification of early markers rodent nongenotoxic hepatocarcinogenesis.

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 10 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:526212 HCAPLUS
DOCUMENT NUMBER: 135:119238
TITLE: High expression and production of high-specific activity recombinant s-adenosyl homocysteinase (SAHH) and improved assays for **s-adenosylmethionine** (SAM) and therapeutic uses thereof
INVENTOR(S): Hoffman, Robert M.; Xu, Mingxu; Han, Qinghong
PATENT ASSIGNEE(S): Anticancer, Inc., USA
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001051651 | A2 | 20010719 | WO 2001-US1114 | 20010112 |
| WO 2001051651 | A3 | 20020110 | | |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| US 2002119491 | A1 | 20020829 | US 2001-759990 | 20010112 |

PRIORITY APPLN. INFO.: US 2000-176444P P 20000114
AB The invention provides novel methods relating to SAM detection and prodn.

as well as a novel SAHH enzymic activity for use in such methods. Addnl. methods, compns., and kits relating to the novel SAHH are also provided. The invention provides an isolated and recombinant DNA encoding modified Trichomonas vaginalis SAHH. In another aspect, the SAHH gene is also modified to encode a modified HisoSAHH, which has an extra six histidines, in the N-terminal of the SAHH gene. In another aspect of the invention, the invention provides methods for the propagation and maintenance of the nucleic acids and their use in the expression of SAHH proteins. The methods may be used as part of a diagnostic protocol or as part of a therapeutic protocol to monitor the conditions or progress of the therapy.

IT **29908-03-0P**
RL: ANT (Analyte); BPN (Biosynthetic preparation); ANST (Analytical study); BIOL (Biological study); PREP (Preparation)
(high expression and prodn. of high-specific activity recombinant s-adenosyl homocysteinase (SAHH) and improved assays for **s-adenosylmethionine** (SAM) and therapeutic uses thereof)

L35 ANSWER 11 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:434854 HCAPLUS
DOCUMENT NUMBER: 135:51045
TITLE: Therapeutic compositions containing anti-inflammatory agents and biodegradable polyanhydrides
INVENTOR(S): Uhrich, Kathryn; Macedo, Braz
PATENT ASSIGNEE(S): Rutgers, the State University of New Jersey, USA; University of Medicine and Dentistry of New Jersey
SOURCE: PCT Int. Appl., 40 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001041753 | A2 | 20010614 | WO 2000-US33378 | 20001207 |
| WO 2001041753 | A3 | 20020912 | | |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1999-455861 A 19991207

AB Methods of promoting healing through enhanced regeneration of tissue (e.g. hard tissue or soft tissue) by contacting the tissue or the surrounding tissue with an antiinflammatory agent are useful in a variety of dental and orthopedic applications. Thus, poly[1,6-bis(o-carboxyphenoxy)hexane] was prepd. in a series of steps by the treatment of salicylic acid with 1,6-dibromohexane, and polymn. of the resulting 1,6-bis(o-carboxyphenoxy)hexane. The polymer was characterized by glass transition temp. measurements and then subjected to compression molding.

IT **29908-03-0**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(therapeutic compns. contg. antiinflammatory agents and biodegradable polyanhydrides)

L35 ANSWER 12 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:338762 HCAPLUS
DOCUMENT NUMBER: 134:362292
TITLE: Methods of determining individual hypersensitivity to a pharmaceutical agent from gene expression profile
INVENTOR(S): Farr, Spencer
PATENT ASSIGNEE(S): Phase-1 Molecular Toxicology, USA
SOURCE: PCT Int. Appl., 222 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2001032928 | A2 | 20010510 | WO 2000-US30474 | 20001103 |
| WO 2001032928 | A3 | 20020725 | | |

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 1999-165398P P 19991105
US 2000-196571P P 20000411

AB The invention discloses methods, gene databases, gene arrays, protein arrays, and devices that may be used to det. the hypersensitivity of individuals to a given agent, such as drug or other chem., in order to prevent toxic side effects. In one embodiment, methods of identifying hypersensitivity in a subject by obtaining a gene expression profile of multiple genes assocd. with hypersensitivity of the subject suspected to be hypersensitive, and identifying in the gene expression profile of the subject a pattern of gene expression of the genes assocd. with hypersensitivity are disclosed. The gene expression profile of the subject may be compared with the gene expression profile of a normal individual and a hypersensitive individual. The gene expression profile of the subject that is obtained may comprise a profile of levels of mRNA or cDNA. The gene expression profile may be obtained by using an array of nucleic acid probes for the plurality of genes assocd. with hypersensitivity. The expression of the genes predetd. to be assocd. with hypersensitivity is directly related to prevention or repair of toxic damage at the tissue, organ or system level. Gene databases arrays and app. useful for identifying hypersensitivity in a subject are also disclosed.

IT **56-81-5, Glycerol**, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(iodinated; methods of detg. individual hypersensitivity to a pharmaceutical agent from gene expression profile)

IT **25322-68-3**, Polyethylene glycol
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(methods of detg. individual hypersensitivity to a pharmaceutical agent

from gene expression profile)

L35 ANSWER 13 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:13706 HCAPLUS
DOCUMENT NUMBER: 134:221884
TITLE: Folate deficiency in vitro induces uracil misincorporation and DNA hypomethylation and inhibits DNA excision repair in immortalized normal human colon epithelial cells
AUTHOR(S): Duthie, Susan J.; Narayanan, Sabrina; Blum, Stephanie; Pirie, Lynn; Brand, Gillian M.
CORPORATE SOURCE: Rowett Research Institute, Bucksburn, AB21 9SB, UK
SOURCE: Nutrition and Cancer (2000), 37(2), 245-251
CODEN: NUCADQ; ISSN: 0163-5581
PUBLISHER: Lawrence Erlbaum Associates, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Epidemiol. studies have indicated that folic acid protects against a variety of cancers, particularly cancer of the **colorectum**. Folate is essential for efficient DNA synthesis and repair. Moreover, folate can affect cellular **S-adenosylmethionine** levels, which regulate DNA methylation and control gene expression. We have investigated the mechanisms through which folate affects DNA stability in immortalized normal human colonocytes (HCEC). DNA strand breakage, uracil misincorporation, and DNA repair, in response to oxidative and alkylation damage, were detd. in folate-sufficient and folate-deficient colonocytes by single cell **gel** electrophoresis. In addn., Me incorporation into genomic DNA was measured using the bacterial enzyme Sss1 methylase. Cultured human colonocyte DNA contained endogenous strand breaks and uracil. Folate deficiency significantly increased strand breakage and uracil misincorporation in these cells. This neg. effect on DNA stability was concn. dependent at levels usually found in human plasma (1-10 ng/mL). DNA methylation was decreased in HCEC grown in the absence of folate. Conversely, hypomethylation was not concn. dependent. Folate deficiency impaired the ability of HCEC to repair oxidative and alkylation damage. These results demonstrate that folic acid modulates DNA repair, DNA strand breakage, and uracil misincorporation in immortalized human colonocytes and that folate deficiency substantially decreases DNA stability in these cells.
REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 14 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:679263 HCAPLUS
DOCUMENT NUMBER: 134:188814
TITLE: Re-annotating the Mycoplasma pneumoniae genome sequence: adding value, function and reading frames
AUTHOR(S): Dandekar, Thomas; Huynen, Martijn; Regula, Jorg Thomas; Ueberle, Barbara; Zimmermann, Carl Ulrich; Andrade, Miguel A.; Doerks, Tobias; Sanchez-Pulido, Luis; Snel, Berend; Suyama, Mikita; Yuan, Yan P.; Herrmann, Richard; Bork, Peer
CORPORATE SOURCE: EMBL, Heidelberg, D-69012, Germany
SOURCE: Nucleic Acids Research (2000), 28(17), 3278-3288
CODEN: NARHAD; ISSN: 0305-1048
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Four years after the original sequence submission, we have re-annotated the genome of Mycoplasma pneumoniae to incorporate novel data. The total no. of ORFss has been increased from 677 to 688 (10 new proteins were predicted in intergenic regions, two further were newly identified by mass spectrometry and one protein ORF was dismissed) and the no. of RNAs from 39 to 42 genes. For 19 of the now 35 tRNAs and for six other functional RNAs the exact genome positions were re-annotated and two new tRNALeu and a small 200 nt RNA were identified. Sixteen protein reading frames were extended and eight shortened. For each ORF a consistent annotation vocabulary has been introduced. Annotation reasoning, annotation categories and comparisons to other published data on M. pneumoniae functional assignments are given. Exptl. evidence includes 2-dimensional **gel** electrophoresis in combination with mass spectrometry as well as gene expression data from this study. Compared to the original annotation, we increased the no. of proteins with predicted functional features from 349 to 458. The increase includes 36 new predictions and 73 protein assignments confirmed by the published literature. Furthermore, there are 23 redns. and 30 addns. with respect to the previous annotation. MRNA expression data support transcription of 184 of the functionally unassigned reading frames.

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 15 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:544609 HCAPLUS
DOCUMENT NUMBER: 134:27367
TITLE: Physiological study of the yeast propagation process by 2-D electrophoresis
AUTHOR(S): Joubert, R.; Brignon, P.; Proth, J.; Boucherie, H.; Gendre, F.
CORPORATE SOURCE: Beverage Division Research Center of Danone Group, Strasbourg, F-67084, Fr.
SOURCE: Monograph - European Brewery Convention (2000), 28(E.B.C.-Symposium Yeast Physiology, 1999), 171-181
CODEN: MEBCD6; ISSN: 0255-7045
PUBLISHER: Fachverlag Hans Carl
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The brewing industry is often mentioned as a field where traditional and new technologies coexist successfully. The Kronenbourg Breweries are currently propagating their yeast with a process that has been used for many years. A new approach to brewing yeast propagation has been developed by TEPRAL. In order to better understand the effect of these processes on the yeast physiol. and the wort fermn. in the industrial vessels, two-dimensional **gel** anal. of traditionally and TEPRAL propagated yeast proteome was carried out. The 2D maps obtained are different and the comparison of the identified enzyme abundance revealed that the yeast physiol. status are divergent. To increase the rate of yeast prodn. and/or to speed up the fermn. start, modifications were suggested and some of them were checked out at a pilot-scale. First results show that the brewing yeast could be propagated with a higher rate and the fermn. could start faster with TEPRAL propagation.

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 16 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:161116 HCAPLUS
DOCUMENT NUMBER: 132:199074

TITLE: Pharmaceutical and/or diet product
INVENTOR(S): Ghyczy, Miklos; Boros, Mihaly
PATENT ASSIGNEE(S): Germany
SOURCE: PCT Int. Appl., 27 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2000012071 | A2 | 20000309 | WO 1999-DE2691 | 19990827 |
| WO 2000012071 | A3 | 20000615 | | |
| W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| DE 19839441 | A1 | 20000302 | DE 1998-19839441 | 19980829 |
| DE 19839443 | A1 | 20000302 | DE 1998-19839443 | 19980829 |
| AU 2000010295 | A1 | 20000321 | AU 2000-10295 | 19990827 |

PRIORITY APPLN. INFO.:
DE 1998-19839441 A 19980829
DE 1998-19839443 A 19980829
DE 1999-19919979 A 19990430
WO 1999-DE2691 W 19990827

AB A pharmaceutical or diet product, esp. for prophylaxis and/or therapy of disorders caused by insufficient O supply, secondary effects of anti-inflammatory active substances, and prophylaxis or therapy of disorders of energy metab., contains .gtoreq.1 compd. having a (CH2)2N+Me3 group and/or **S-adenosylmethionine**. These compds. act as scavengers for excess electrons produced metabolically during O deficiency and thereby prevent O radical formation and protect against cell damage. Suitable (CH2)2N+Me3-contg. compds. include betaine, acetylcholine, choline, glycerophosphocholine, phosphatidylcholine, lysophosphatidylcholine, carnitine, acylcarnitines, and sphingomyelins. Thus, tablets were prepd. contg. diclofenac Na 50.0, betaine-HCl 113.64, microcryst. cellulose 30.0, **gelatin** 3.5, starch 30.86, and Mg stearate 2.0 mg.

IT **29908-03-0**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(pharmaceutical and/or diet product against hypoxia)

L35 ANSWER 17 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:128801 HCAPLUS
DOCUMENT NUMBER: 133:101823
TITLE: The level of cAMP-dependent protein kinase A activity strongly affects osmotolerance and osmo-instigated gene expression changes in Saccharomyces cerevisiae
AUTHOR(S): Norbeck, Joakim; Blomberg, Anders
CORPORATE SOURCE: Department of Cell and Molecular Biology, Lundberg Laboratory, Goteborg University, Goteborg, SE-41390,

Swed.
SOURCE: Yeast (2000), 16(2), 121-137
CODEN: YESTE3; ISSN: 0749-503X
PUBLISHER: John Wiley & Sons Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The influence of cAMP-dependent protein kinase (PKA) on protein expression during exponential growth under osmotic stress was studied by two-dimensional polyacrylamide **gel** electrophoresis (2D-PAGE). The responses of isogenic strains (tpk2.DELTA.tpk3.DELTA.) with either constitutively low (tpk1w1), regulated (TPK1) or constitutively high (TPK1bcyl.DELTA.) PKA activity were compared. The activity of cAMP-dependent protein kinase (PKA) was shown to be a major determinant of osmotic shock tolerance. Proteins with increased expression during growth under sodium chloride stress could be grouped into three classes with respect to PKA activity, with the **glycerol** metabolic proteins GPD1, GPP2 and DAK1 standing out as independent of PKA. The other osmotically induced proteins displayed a variable dependence on PKA activity; fully PKA-dependent genes were TPS1 and GCY1, partly PKA-dependent genes were ENO1, TDH1, ALD3 and CTT1. The proteins repressed by osmotic stress also fell into distinct classes of PKA-dependency. Ymr116c was PKA-independent, while Pgi1p, Sam1p, Gdh1p and Vma1p were fully PKA-dependent. Hxk2p, Pdc1p, Ssb1p, Met6p, Atp2p and Hsp60p displayed a partially PKA-dependent repression. The promotors of all induced PKA-dependent genes have STRE sites in their promoters suggestive of a mechanism acting via Msn2/4p. The mechanisms governing the expression of the other classes are unknown. From the protein expression data we conclude that a low PKA activity causes a protein expression resembling that of osmotically stressed cells, and furthermore makes cells tolerant to this type of stress.
REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L35 ANSWER 18 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1994:476912 HCAPLUS
DOCUMENT NUMBER: 121:76912
TITLE: Characterization and partial purification of mRNA N6-adenosine methyltransferase from HeLa cell nuclei. Internal mRNA methylation requires a multisubunit complex
AUTHOR(S): Bokar, Joseph A.; Rath-Shambaugh, Mary Eileen; Ludwiczak, Rachael; Narayan, Prema; Rottman, Fritz
CORPORATE SOURCE: Sch. Med., Case Western Reserve Univ., Cleveland, OH, 44106, USA
SOURCE: Journal of Biological Chemistry (1994), 269(26), 17697-704
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English
AB N6-Methyladenosine is found at internal positions of mRNA in higher eukaryotes. This post-transcriptional modification occurs at a frequency of one to three methylations/av. mRNA mol. in mammalian cell lines and is sequence-specific. A highly conserved consensus recognition site for the methyltransferase has been detd. from both viral and cellular messages, consisting of the sequence Pu(G/A)AC(U/A) (with A being methylated). Despite the ubiquity and the specificity of this modification, little is known about the mechanism of formation of N6-methyladenosine. Utilizing an in vitro methylation system from HeLa cell nuclear exts., and a

substrate RNA derived from the mRNA coding for bovine prolactin, the mRNA N6-adenosine methyltransferase has been characterized and partially purified. Unique among other characterized nucleic acid methyltransferases, the enzyme is composed of three components which are separable under non-denaturing conditions. The mol. masses of the components are 30, 200, and 875 kDa as detd. by **gel** filtration and **glycerol** gradient sedimentation. The 200-kDa component appears to contain the **S-adenosylmethionine**-binding site on a 70-kDa subunit. The 875-kDa component has affinity for single-stranded DNA-agarose, suggesting that it may contain the mRNA-binding site. N6-Adenosine Me transferase is not sensitive to treatment with micrococcal nuclease, nor to immunodepletion using an anti-trimethylguanosine antibody, suggesting that it does not contain an essential RNA component.

L35 ANSWER 19 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1991:467244 HCAPLUS
DOCUMENT NUMBER: 115:67244
TITLE: Characterization of maize pollen flavonoid 3'-methyltransferase activity and its in vivo products
AUTHOR(S): Tobias, Rowel B.; Larson, Russell L.
CORPORATE SOURCE: Agron. Biochem. Dep., Univ. Missouri, Columbia, MO, 65211, USA
SOURCE: Biochemie und Physiologie der Pflanzen (1991), 187(3), 243-50
CODEN: BPPFA4; ISSN: 0015-3796
DOCUMENT TYPE: Journal
LANGUAGE: English

AB An enzyme which catalyzes the methylation of quercetin at the 3'-position was isolated and partially characterized from maize pollen. The enzyme, SAM:quercetin-3'-O-methyltransferase (EC 2.1.1.42), was purified 60-fold by a combination of salt fractionation and column chromatog. steps. The enzyme was eluted from freeze-dried pollen with NaCl, the supernatant pptd. with ammonium sulfate, subsequently desalted by Sephadex G-50 **gel** filtration, and partially purified by Sephadex DEAE anion exchange chromatog., ultrafiltration, and Sephadex G-200 **gel** filtration. The methyltransferase assay required **S-adenosylmethionine** as the Me donor, dithioerythritol, and Mg+2 or Mn+2 in the reaction mixt. Optimum conditions for the reaction were pH 8.5 and 38.degree.. The enzyme could be stabilized and activity maintained by the addn. of 20% **glycerol** prior to storage at -70.degree.. S-Adenosylhomocysteine, a reaction product, and mercuric chloride strongly inhibited the methylation reaction. The transferase utilized either quercetin, a flavonol, luteolin, a flavone, or eriodictyol, a flavanone, as substrates, whereas neither isoquercitrin (quercetin 3-glucoside) nor caffeic acid served as a substrate. The type of substrates methylated by the enzyme suggest that methylation occurs on the fifteen carbon skeleton prior to glucosylation which is known to occur near the end of the reaction sequence. The Km values for SAM and quercetin were 5.5 .mu.M and 9.6 .mu.M, resp., and the Vmax was 37.3 .times. 10-2 pkat. The mol. wt. for the transferase was estd. at 47,000. The product of the enzyme reaction, isorhamnetin, was identified in exts. of pollen stocks singly recessive for the genes C1, C2, R, A1, A2, Bz1, Bz2. However, none of these genes could be shown to have any direct regulatory effect on the methyltransferase.

IT **29908-03-0, S-Adenosylmethionine**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with flavonoid methyltransferase of maize pollen,

kinetics of)

L35 ANSWER 20 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1989:475602 HCAPLUS
DOCUMENT NUMBER: 111:75602
TITLE: Gene sequences coding for **S-adenosylmethionine** decarboxylase are present on human chromosome 6 and the X and are not amplified in colon neoplasia
AUTHOR(S): Radford, D. M.; Eddy, R.; Haley, L.; Henry, W. M.; Pegg, A. E.; Pajunen, A.; Shows, T. B.
CORPORATE SOURCE: Roswell Park Mem. Inst., New York State Dep. Health, Buffalo, NY, USA
SOURCE: Cytogenetics and Cell Genetics (1988), 49(4), 285-8
CODEN: CGCGBR; ISSN: 0301-0171
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Sequences for human **S-adenosylmethionine** decarboxylase, an enzyme involved in polyamine biosynthesis, and which is elevated in tumors, were localized on chromosomes 6 and X. Tumor or benign colonic polyp DNA was run on a **gel** with normal mucosal DNA from the same patient. In all 26 cases, the same 4 human bands were found. No polymorphism in PstI-digested DNA was seen between individuals, nor was any polymorphism noted between tumor or polyp and corresponding mucosa. By visual inspection of several expts., no amplification of either the locus on 6 or on the X was seen in **colorectal** cancer or benign colonic polyp DNA.

L35 ANSWER 21 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1987:115572 HCAPLUS
DOCUMENT NUMBER: 106:115572
TITLE: Isolation and characterization of a nucleolar 2'-O-methyltransferase from Ehrlich ascites tumor cells
AUTHOR(S): Eichler, Duane C.; Raber, Nancy K.; Shumard, Christine M.; Eales, Susan J.
CORPORATE SOURCE: Coll. Med., Univ. South Florida, Tampa, FL, 33612, USA
SOURCE: Biochemistry (1987), 26(6), 1639-44
CODEN: BICHAW; ISSN: 0006-2960
DOCUMENT TYPE: Journal
LANGUAGE: English
AB RRNA ribose 2'-methyltransferase (I), an enzyme that transfers the Me group from **S-adenosylmethionine** to the 2'-OH group of ribose moieties of rRNA, was purified from Ehrlich ascites tumor cell nucleoli. Partially purified I was devoid of other RNA methylase activities and was free of RNases. I had optimal activity in Tris buffer, pH 8.0, in the presence of 0.4 mM EDTA, 2 mM dithiothreitol, and 50 mM KCl, and had an apparent Km for **S-adenosylmethionine** of 0.44 .mu.M. **Gel** filtration studies of I gave a Stokes' radius of 43 .ANG.. Sedimentation velocity measurements in **glycerol** gradients yielded a sedimentation coeff. of 8.0 S. From these values, a native mol. wt. of 145,000 was calcd. I catalyzed the methylation of synthetic homoribopolymers as well as 18 and 28 S rRNA; however, poly(C) was the preferred synthetic substrate, and a preference for unmethylated sequences of rRNA was obsd. For each RNA substrate examd., only methylation of the 2'-OH group of the ribose moieties was detected.
IT **29908-03-0**, S-Adenosyl-L-methionine

RL: RCT (Reactant)
(reaction of, with rRNA ribose 5'-methyltransferase of Ehrlich ascites tumor cells, kinetics of)

L35 ANSWER 22 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1985:573169 HCAPLUS
DOCUMENT NUMBER: 103:173169
TITLE: Genetic and biochemical characterization of the red gene cluster of Streptomyces **coelicolor** A3(2)
AUTHOR(S): Feitelson, Jerald S.; Malpartida, Francisco; Hopwood, David A.
CORPORATE SOURCE: John Innes Inst., Norwich, NR4 7UH, UK
SOURCE: J. Gen. Microbiol. (1985), 131(9), 2431-41
CODEN: JGMIAN; ISSN: 0022-1287
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Prodn. of the red antibiotic, undecylprodigiosin [52340-48-4], by S. **coelicolor** A3(2) was studied by DNA cloning and biochem. anal. Over 21 kilobases (kb) of genomic DNA were cloned, in several segments, into plasmid vectors. The cloned DNA complemented several specific mutations in the red gene cluster. Four red genes (redA, B, E, and F) were mapped to different regions within the cloned DNA. Screening with redE probes for DNA homologies among various streptomycetes revealed hybridizing DNA in 3 strains, 1 of them not known to synthesize prodigiosin pigments. Biochem. studies using protoplast cells revised the interpretation of the nature of redE and redF mutations. Two forms of undecylnorprodigiosin: **S-adenosylmethionine** O-methyltransferase [87244-18-6] activity on **gel** filtration columns were detected: a very high-mol. mass peak (>5 MDal) and a 49 kDal peak. Analyses of exts. from red mutants suggested that these 2 forms are related, and that at least the redE and redF gene products are necessary for O-methyltransferase activity in vivo. Lack of activity of the redE gene in a heterologous host, S. glaucescens, is consistent with the necessity for a biosynthetic complex involving several red gene products for efficient expression. Expts. in liq. antibiotic prodn. medium indicated that prodigiosin compds. in S. **coelicolor** are examples of secondary metabolites whose synthesis lags behind that of cell mass. The peak of specific activity of O-methyltransferase coincided with the late exponential phase of growth. Thus, understanding the genetic regulation of undecylprodigiosin biosynthesis in S. **coelicolor** may be relevant to other antibiotic prodn. pathways, and perhaps to (secondary) metab. in general.

L35 ANSWER 23 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1983:193924 HCAPLUS
DOCUMENT NUMBER: 98:193924
TITLE: Purification and characterization of protein methylase II from human term placenta
AUTHOR(S): Hwang, Byung Doo; Lee, Jae Heun; Paik, Moon Kee
CORPORATE SOURCE: Coll. Med., Chungnam Natl. Univ., Daejeon, S. Korea
SOURCE: Chungnam Uidae Chapchi (1982), 9(2), 136-44
CODEN: CUCHDS; ISSN: 0253-6307
DOCUMENT TYPE: Journal
LANGUAGE: Korean
AB Protein methylase II was purified from human term placenta .apprx.8760-fold with a 14.5% yield. The enzyme showed a sharp pH optimum at pH .apprx.5.8. The enzyme was easily inactivated by heat treatment for

5 min at 60.degree., and when stored at -20.degree. even in the presence of 10% **glycerol**, .apprx.70% of the activity was lost in 8 wk. The enzyme did not require any divalent cations and Cu2+ was a potent inhibitor, the activity being completely inhibited at 2 mM and 86% of the activity being recovered by addn. of 4 mM EDTA. Histone IIA and myelin basic protein were good substrates for this enzyme. The Km for S-adenosyl-L-methionine and Ki for S-adenosyl-L-homocysteine were 2.03 .times. 10-6 and 5.8 .times. 10-7M, resp. The methylated membrane proteins from human placenta were analyzed by SDS-polyacrylamide **gel** electrophoresis. Bands 1, 2, 4, 15, and 17 were identified as 5 major classes of methyl-acceptor proteins for protein methylase II. The role of placental membrane protein methylation is discussed with regard to placental function.

IT **29908-03-0**
RL: RCT (Reactant)
(reaction of, with protein methylase II of human placenta, kinetics of)

L35 ANSWER 24 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1981:116553 HCAPLUS
DOCUMENT NUMBER: 94:116553
TITLE: Multiple species of mammalian **S-adenosylmethionine** synthetase. Partial purification and characterization
AUTHOR(S): Okada, Gensaku; Teraoka, Hirobumi; Tsukada, Kinji
CORPORATE SOURCE: Med. Res. Inst., Tokyo Med. Dent. Univ., Tokyo, 101, Japan
SOURCE: Biochemistry (1981), 20(4), 934-40
CODEN: BICHAW; ISSN: 0006-2960
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Two species of **S-adenosylmethionine** synthetase (EC 2.5.1.6) (I) exist in rat liver cytosol and a distinct species of the enzyme in kidney cytosol. I .alpha. and .beta. in rat liver cytosol were partially purified .apprx.200- and .apprx.80-fold, resp. The apparent mol. wts. estd. by **gel** filtration and the sedimentation coeffs. were 210,000 and 9 S for I .alpha. and 160,000 and 5.5 S for I .beta.. Both enzymes absolutely required Mg2+ and K+ for the activity and were completely inhibited by p-chloromercuribenzoate. Kinetic studies indicated that I .alpha. and .beta. exhibit neg. cooperativity with low S0.5 (ligand concn. required for half-maximal velocity) for L-methionine (17 .mu.M) and ATP (0.5 mM) and pos. cooperativity with much higher S0.5 values for L-methionine of 0.5 mM, and for ATP of 2 mM. The cryoprotectants, dimethyl sulfoxide and **glycerol**, markedly lowered the S0.5 values of I .beta. without significant effect on Vmax. A single species of I was purified .apprx.1000-fold from rat kidney cytosol. The kidney enzyme, termed I .gamma., had an apparent mol. wt. of 190,000 and a sedimentation coeff. of 7.5 S and was resistant to inhibition by p-chloromercuribenzoate. I .gamma. exhibited slightly neg. cooperativity with an apparent S0.5 for L-methionine of 6 .mu.M and for ATP of 70 .mu.M.

L35 ANSWER 25 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1978:559299 HCAPLUS
DOCUMENT NUMBER: 89:159299
TITLE: Purification of the "corrinoid" enzyme involved in the synthesis of acetate by Clostridium thermoaceticum
AUTHOR(S): Welty, Francine K.; Wood, Harland G.
CORPORATE SOURCE: Dep. Biochem., Case Western Reserve Univ. Sch. Med., Cleveland, Ohio, USA

SOURCE: J. Biol. Chem. (1978), 253(16), 5832-8
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A corrinoid enzyme was purified to .apprx.80% homogeneity from C. thermoaceticum. It catalyzed the formation of acetate from N5-methyltetrahydrofolate and pyruvate in combination with the required supplementary enzymes which were supplied by an ext. that was treated with PrI. The enzyme was purified by chromatog. on a folate affinity column and a DEAE-Bio-**Gel** column, and by ultrafiltration. The mol. wt. as detd. by sedimentation equil. was 158,000 and the sedimentation coeff. was 10.5 S. By **gel** electrophoresis in Na dodecyl sulfate, the subunit mol. wt. was found to be 40,000, indicating the enzyme may be a tetramer of 4 similar subunits. The results of electron microscopy confirmed the tetrameric structure. In the absence of Na dodecyl sulfate, 2 bands of similar intensity were obsd. by electrophoresis, but both yielded the 40,000-mol.-wt. subunit in the presence of Na dodecyl sulfate. Evidently, the 2 bands represent either 2 different mol.-wt. forms of the enzyme or 2 differently charged isoenzymes. The enzyme is quite labile, being sensitive to diln., aerobic conditions, and light. Dithiothreitol and **glycerol** stabilized the enzyme. The cofactor requirements for acetate synthesis were detd. ATP, thiamin pyrophosphate, **S-adenosylmethionine**, and Fe2+ were required for max. activity and the Km values were detd. High concns. of methyltetrahydrofolate, pyruvate, and **S-adenosylmethionine** inhibited the synthesis of acetate.

IT **29908-03-0**
RL: RCT (Reactant)
(reaction of, with corrinoid enzyme, kinetics of)

L35 ANSWER 26 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1978:559281 HCAPLUS
DOCUMENT NUMBER: 89:159281
TITLE: The purification and properties of pig liver catechol-O-methyl transferase
AUTHOR(S): Gulliver, Peter A.; Tipton, Keith F.
CORPORATE SOURCE: Dep. Biochem., Univ. Cambridge, Cambridge, Engl.
SOURCE: Eur. J. Biochem. (1978), 88(2), 439-44
CODEN: EJBCAI; ISSN: 0014-2956
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A procedure utilizing affinity chromatog. is described for the large-scale purifn. of pig liver catechol-O-methyltransferase. The enzyme prepd. by this method appears to be homogeneous by polyacrylamide **gel** electrophoretic criteria and **gel** chromatog. It is stable for prolonged periods when stored at -5.degree. in 20% **glycerol**. The enzyme has a mol. wt. of .apprx.23,000 and does not appear to be a compd. of subunits, or to assoc. to any appreciable degree. The pH optimum of the enzyme activity is approx. pH 7.1-7.4; it does not catalyze the methylation of benzimidazole and has a Km of 0.64 mM and 0.056 mM towards 3,4-dihydroxyphenylacetic acid and S-adenosyl-L-methionine, resp. Amino acid anal. showed the presence of 5 cysteine residues.

IT **29908-03-0**
RL: RCT (Reactant)
(reaction of, with catechol O-methyltransferase, kinetics of)

L35 ANSWER 27 OF 27 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1965:90725 HCAPLUS

DOCUMENT NUMBER: 62:90725
ORIGINAL REFERENCE NO.: 62:16176a-e
TITLE: Indole compounds. Isolation from pineal tissue
AUTHOR(S): McIsaac, William M.; Farrell, Gordon; Taborsky, Robert G.; Taylor, Anna N.
CORPORATE SOURCE: Texas Med. Center, Houston
SOURCE: Science (1965), 148(3666), 102-3
DOCUMENT TYPE: Journal
LANGUAGE: English
GI For diagram(s), see printed CA Issue.
AB Cattle pineal glands quick-frozen at -10.degree. and stored in the absence of light and air, the tissue (1 kg.) homogenized (all operations under N) in 21. redistd. EtOAc, and the filtered soln. evapd. at 40.degree. under reduced pressure, the residue freed from cholesterol by partitioning between H2O and C6H14, the aq. phase extd. with EtOAc, and the residue in a min. of alc. chromatographed on a thin-layer plate of silica **gel** in 9:1 CHCl3-MeOH (solvent A) showed the presence of 7 xanthydrol-pos. compds. at Rf 0.95, 0.70, 0.60, 0.58, 0.35, 0.10, and 0.05. For the preliminary comparative identification of the indoles in the exts. 50 derivs. of serotonin were used as reference compds., and chromatography, electrophoresis, and uv spectroscopy were used to characterize the unknowns. The characteristics (**color** reactions with xanthydrol and Ehrlich reagent, Rf in 5 solvents, electrophoretic mobility, uv max. in m.mu., m.p. of compd. or characteristic picrate, and antagonism to serotonin) were tabulated and the assembled data showed the presence of 5 indole compds. (I). I (R = H, R1 = CH2OH, R2 = Me) (II), Rf 0.70 (solvent A) gave a picrate, m. 113.degree.. I (R = Ac, R1 = CH2NH2, R2 = Me), Rf 0.60, .lambda. 278 m.mu., gave a picrate m. 137.degree.. I (R = R2 = H, R1 = CH2OH) (III), Rf 0.35, .lambda. 278 m.mu., gave a picrate m. 151.degree.. I (R = H, R1 = CO2H, R2 = Me), Rf 0.10, .lambda. 278 m.mu., m. 150.degree.; I (R = R2 = H, R2 = CO2H), Rf 0.05, .lambda. 278 m.mu., m. 165.degree.. Hydroxyindole O-methyltransferase (IV) was prepd. from beef pineal tissue and purified. III (5 .mu. mole), **S-adenosylmethionine**-3H (5 .mu.mole) and IV were incubated (0.2M phosphate buffer, pH 8) 2 hrs. at 37.degree. and the mixt. extd. with EtOAc, the residue on evapn. taken up in 0.2 ml. alc., and aliquots chromatographed, the radioactive chromatograms scanned to det. the amt. of product and the product identified by **color** reactions, Rf values, and radioactivity showed the presence of II.

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=> d que stat l37
L1             1 SEA FILE=REGISTRY ABB=ON  29908-03-0/RN
L2             2 SEA FILE=REGISTRY ABB=ON  ("S-ADENOSYLMETHIONINE CHLORIDE"/CN
                 OR "S-ADENOSYLMETHIONINE IODIDE"/CN)
L3             3 SEA FILE=REGISTRY ABB=ON  L1 OR L2
L4             1 SEA FILE=REGISTRY ABB=ON  GLYCEROL/CN
L5             1 SEA FILE=REGISTRY ABB=ON  GLYCERINE/CN
L6             1 SEA FILE=REGISTRY ABB=ON  TRIACETIN/CN
L7             1 SEA FILE=REGISTRY ABB=ON  SORBITOL/CN
L8             1 SEA FILE=REGISTRY ABB=ON  SORBITAN/CN
L9             4 SEA FILE=REGISTRY ABB=ON  L4 OR L5 OR L6 OR L7 OR L8
L10            1 SEA FILE=REGISTRY ABB=ON  "PEG 200"/CN
L11            1 SEA FILE=REGISTRY ABB=ON  "TITANIUM DIOXIDE"/CN
L12            4 SEA FILE=REGISTRY ABB=ON  "IRON OXIDE"/CN
L13            5 SEA FILE=REGISTRY ABB=ON  L11 OR L12
L14            2 SEA FILE=REGISTRY ABB=ON  ("OXIDE YELLOW 3910"/CN OR "OXIDE
                 YELLOW 3920"/CN)
L15            1 SEA FILE=REGISTRY ABB=ON  METHYLPARABEN/CN
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L16           1 SEA FILE=REGISTRY ABB=ON  PROPYLPARABEN/CN
L17           2 SEA FILE=REGISTRY ABB=ON  L15 OR L16
L18        6291 SEA FILE=HCAPLUS ABB=ON  L3 OR S(W)(ADENOSYLMETHIONINE OR
                ADENOSYL(W)METHIONINE)
L19         329 SEA FILE=HCAPLUS ABB=ON  L18 AND (GEL? OR ?SOFTGEL? OR
                ?SOFT(W)GEL?)
L20           8 SEA FILE=HCAPLUS ABB=ON  L19 AND (?CAPSUL? OR ?DELIVER?)
L21          16 SEA FILE=HCAPLUS ABB=ON  L19 AND (L9 OR GLYCEROL? OR GLYCERIN?
                OR TRIACETIN? OR SORBITOL? OR SORBITAN?(W)?ANHYDRID? OR
                MANNITOL? OR ?SOFTEN?)
L22           2 SEA FILE=HCAPLUS ABB=ON  L19 AND (L10 OR (POLYETHYLENE GLYCOL
                OR POLYETHYLENEGLYCOL)(W)200 OR PLASTICIZ?)
L23           1 SEA FILE=HCAPLUS ABB=ON  L19 AND (L13 OR TITANIUM DIOXID? OR
                (IRON OR FE OR FER?)(W)OXID?)
L25           7 SEA FILE=HCAPLUS ABB=ON  L19 AND (L14 OR OXID?(3A)YELLOW? OR
                ?COLOR?)
L26           2 SEA FILE=HCAPLUS ABB=ON  L19 AND (L17 OR METHYLPARABEN OR
                PROPYLPARABEN OR (METHYL OR PROPYL)(W)PARABEN)
L27          27 SEA FILE=HCAPLUS ABB=ON  L20 OR L21 OR L22 OR L23 OR L25 OR
                L26
L28           1 SEA FILE=REGISTRY ABB=ON  HPMCP/CN
L29           1 SEA FILE=REGISTRY ABB=ON  "2-HYDROXYPROPYL METHYL CELLULOSE
                SUCCINATE"/CN
L30           2 SEA FILE=REGISTRY ABB=ON  "CARBOXYMETHYL CELLULOSE"/CN
L31           1 SEA FILE=REGISTRY ABB=ON  "METHYLACRYLIC ACID"/CN
L32           5 SEA FILE=REGISTRY ABB=ON  L28 OR L29 OR L30 OR L31
L33       45318 SEA FILE=HCAPLUS ABB=ON  L32 OR (HYDROXYPROPYLMETHYL(W)CELLULOS
                ? OR HYDROXYPROPYLMETHYLCELLULOS?)(W)(PHTHALAT? OR SUCCINAT?)
                OR HPMCP OR HPMCS OR CARBOXYMETHYLCELLULOSE OR CARBOXYMETHYL(W)
                CELLULOSE OR CMEC OR METHYLACRYLIC ACID(3A)?POLYMER? OR
                (?PROPENOIC ACID(3A)?METHYL)
L34           1 SEA FILE=HCAPLUS ABB=ON  L19 AND L33
L35          27 SEA FILE=HCAPLUS ABB=ON  L27 OR L34
L36          33 SEA L35
L37          19 DUP REMOV L36 (14 DUPLICATES REMOVED)

=> d l37 ibib abs 1-19

L37  ANSWER 1 OF 19  WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER:     2002-315281 [35]   WPIDS
DOC. NO. CPI:         C2002-091709
TITLE:                Polymer useful in medical therapy for treating e.g.
                      cancer comprises a backbone containing ester, thioester
                      or amide linkages and a group yielding a biologically
                      active compound.
DERWENT CLASS:        A23 A96 B05 B07 C03
INVENTOR(S):          UHRICH, K E
PATENT ASSIGNEE(S):   (UHRI-I) UHRICH K E; (RUTF) UNIV RUTGERS STATE NEW JERSEY
COUNTRY COUNT:        96
PATENT INFORMATION:

     PATENT NO  KIND DATE     WEEK      LA   PG
     -------------------------------------------
     WO 2002009768 A2 20020207 (200235)* EN   51
        RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ
            NL OA PT SD SE SL SZ TR TZ UG ZW
         W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
            DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR
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KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU
SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2001078055 A 20020213 (200238)
US 2002071822 A1 20020613 (200243)

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2002009768 A2 | | WO 2001-US23747 | 20010727 |
| AU 2001078055 A | | AU 2001-78055 | 20010727 |
| US 2002071822 A1 | Provisional | US 2000-220707P | 20000727 |
| | Provisional | US 2001-261337P | 20010112 |
| | | US 2001-917194 | 20010727 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|---|---|---|
| AU 2001078055 A | Based on | WO 200209768 |

PRIORITY APPLN. INFO: US 2001-261337P 20010112; US 2000-220707P 20000727; US 2001-917194 20010727

AN 2002-315281 [35] WPIDS

AB WO 200209768 A UPAB: 20020603

NOVELTY - A polymer comprises a backbone containing ester, thioester or amide linkages and at least one group which will yield a biologically active compound on hydrolysis of the polymer.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(a) a biocompatible and bio-degradable polyester or polyamide comprising the biologically active compound containing at least 2 alcohol or phenol groups or at least two amine groups co-polymerized to bis(acyl) chlorides or carboxylic acids;

(b) producing the biocompatible and bio-degradable polyester or polyamide by co-polymerizing the biologically active compound with carboxylic acid groups or bis(acyl) chlorides; and

(c) **delivering** the biologically active compound to a host by administering the biocompatible and bio-degradable polyester or polyamide.

ACTIVITY - Cytostatic; Antipsoriatic; Dermatological; Anti-inflammatory; Analgesic; Antiparkinsonian; Antithrombotic; Antibacterial; Fungicide; Immunosuppressive.

No details of tests showing activity are given.

MECHANISM OF ACTION - None given in the source material.

USE - In medical therapy for the manufacture of a medicament for treating diseases e.g. cancer, psoriasis, inflammatory bowel disease, skin cancers, brain tumor, pain or Parkinson's disease in mammals preferably humans; and useful as they have anti-bacterial, antiinflammatory, antifungal, antithrombotic and immunosuppressive activities (all claimed). Also useful in dental and cosmetic applications, in medical implant applications to form shaped articles such as vascular grafts and stents, bone plates, sutures, implantable sensors, implantable drug **delivery** devices, stents for tissue regeneration and other articles that decompose into non-toxic components within known time period. In oral formulations and products e.g. skin moisturizers, cleaners, pads plasters, lotions, creams, **gels**, ointments, solutions, shampoos, tanning products and lipsticks.

ADVANTAGE - The polymers can be readily processed into pastes or solvent cast to yield films coatings, microspheres and fibres with different geometric shapes for design of various medical implants and may also be processed by compression molding and extrusion.
Dwg.0/0

L37 ANSWER 2 OF 19 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2002-329425 [36] WPIDS
DOC. NO. CPI: C2002-095110
TITLE: Polymers useful in medical therapy for treating e.g. cancer comprises a backbone containing an anhydride linkage and a group yielding a biologically active compound.
DERWENT CLASS: A28 A96 B05 B07 C03
INVENTOR(S): UHRICH, K E
PATENT ASSIGNEE(S): (UHRI-I) UHRICH K E; (RUTF) UNIV RUTGERS STATE NEW JERSEY
COUNTRY COUNT: 96
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2002009767 | A2 | 20020207 | (200236)* | EN | 38 |

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2001078052 A 20020213 (200238)

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2002009767 | A2 | WO 2001-US23740 | 20010727 |
| AU 2001078052 | A | AU 2001-78052 | 20010727 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|---|---|---|
| AU 2001078052 | A Based on | WO 200209767 |

PRIORITY APPLN. INFO: US 2000-627215 20000727
AN 2002-329425 [36] WPIDS
AB WO 200209767 A UPAB: 20020610
NOVELTY - A polymer comprises a backbone containing an anhydride linkage and at least one group which will yield a biological compound (A) on hydrolysis of the polymer. (A) is not an ortho-hydroxy aryl carboxylic acid.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:
(a) a pharmaceutical composition comprising (A) and a carrier;
(b) producing a biocompatible and biodegradable polyester or polyamide which degrades into (A). The method involves co-polymerizing (A) containing at least 2 alcohol or phenol groups or at least 2 amine groups with carboxylic acid groups or bis(acyl)chlorides; and
(c) **delivering** (A) to a host by administering the

biocompatible and biodegradable polyester or polyamide to the host.

ACTIVITY - Antibacterial; Antifungal; Cytostatic; Antiinflammatory; Immunosuppressive.

MECHANISM OF ACTION - None given.

USE - In medical therapy of the manufacture of a medicament for treating diseases e.g. cancer in mammals preferably humans (all claimed), in polymeric drug **delivery** systems containing low molecular weight drugs, in medical, dental and cosmetic applications as vascular grafts and stents, bone plates, sutures, implantable sensors, implantable drug **delivery** devices, stents for tissue regeneration and other articles that decompose into non-toxic components within a known time period. The polymers can also be incorporated into oral formulations and products such as skin moisturizers, cleansers, pads, plasters, lotions, creams, **gels**, ointments, solutions, shampoos, tanning products and lipsticks.

ADVANTAGE - The polymers have enhanced solubility and processability as well as degradation properties. The polymers can be readily processed into pastes or solvent cast to yield films, coatings, microspheres and fibers with different geometric shapes of design of various medical implants and may also be processed by compression molding and extrusion. Dwg.0/0

L37 ANSWER 3 OF 19 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2002-602515 [65] WPIDS
DOC. NO. CPI: C2002-170599
TITLE: **Capsule** formulation for use as health food or pharmaceuticals, contains liquid containing **S-adenosylmethionine** or its salt, dispersed or suspended in oil solution, and sealed in **gelatin capsule**.
DERWENT CLASS: B02 B07
PATENT ASSIGNEE(S): (ARIM-N) ARIMENTO KOGYO KK; (KOJK) KOHJIN CO LTD; (MIYA-N) MIYAKO KAGAKU KK
COUNTRY COUNT: 1
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| JP 2002145783 A | | 20020522 | (200265)* | | 6 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| JP 2002145783 A | | JP 2000-338007 | 20001106 |

PRIORITY APPLN. INFO: JP 2000-338007 20001106
AN 2002-602515 [65] WPIDS
AB JP2002145783 A UPAB: 20021010

NOVELTY - A **capsule** formulation contains liquid containing **S-adenosylmethionine** or its salt, dispersed or suspended in the oil solution. The resulting suspension is sealed in a **gelatin capsule**.

ACTIVITY - Antidepressant; antiarthritic; hepatotropic. No test details are given for the above mentioned activity.

MECHANISM OF ACTION - None given.

USE - For producing **S-adenosylmethionine** or its

salt, containing **capsule** formulation which is used as health food or pharmaceutical product. **S-adenosylmethionine** or its salt, improves depression, arthritis, liver disease (liver cirrhosis).

ADVANTAGE - **S-adenosylmethionine** or its salt is easily dispersed in edible oil. The **capsule** formulation is stable as the **capsule** outer layer hinders the absorption of atmospheric moisture content by **S-adenosylmethionine** or its salt (which is hydroscopic).

Dwg.0/0

L37 ANSWER 4 OF 19 MEDLINE DUPLICATE 1
ACCESSION NUMBER: 2002259069 MEDLINE
DOCUMENT NUMBER: 21993751 PubMed ID: 11999115
TITLE: Protein expression during lag phase and growth initiation in Saccharomyces cerevisiae.
AUTHOR: Brejning Jeanette; Jespersen Lene
CORPORATE SOURCE: Department of Dairy and Food Science, Food Microbiology, The Royal Veterinary and Agricultural University, Frederiksberg C, Denmark.. jebr@kvl.dk
SOURCE: INTERNATIONAL JOURNAL OF FOOD MICROBIOLOGY, (2002 May 5) 75 (1-2) 27-38.
Journal code: 8412849. ISSN: 0168-1605.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200207
ENTRY DATE: Entered STN: 20020510
Last Updated on STN: 20020731
Entered Medline: 20020730

AB In order to obtain a better understanding of the biochemical events taking place in Saccharomyces cerevisiae during the lag phase, the proteins expressed during the first hours after inoculation were investigated by two-dimensional (2-D) **gel** electrophoresis and compared to those expressed in late respiratory growth phase. The studies were performed on a haploid strain (S288C) grown in defined minimal medium. Some of the abundant proteins, whose expression relative to total protein expression was induced during the lag phase, were identified by MALDI MS, and the expression of the corresponding genes was assessed by Northern blotting. The rate of protein synthesis was found to increase strongly during the lag phase and the number of spots detected on 2-D **gels** increased from 502 spots just after inoculation to 1533 spots at the end of the lag phase. During the first 20 min, the number of detectable spots was considerably reduced compared to the number of spots detected from the yeast in respiratory growth just prior to harvest and inoculation (747 spots), indicating an immediate pausing or shutdown in synthesis of many proteins just after inoculation. In this period, the cells got rid of most of their buds. The MALDI MS-identified, lag phase-induced proteins were adenosine kinase (Ado1p), whose cellular role is presently uncertain, cytosolic acetaldehyde dehydrogenase (Ald6p) and (DL)-**glycerol** -3-phosphatase 1, both involved in carbohydrate metabolism, a ribosomal protein (Asc1p), a fragment of the 70-kDa heat shock protein Ssb1, and translationally controlled tumour protein homologue (Yk1056cp), all involved in translation, and **S-adenosylmethionine** synthetase I involved in biosynthesis reactions. The level of mRNA of the corresponding genes was found to increase strongly after inoculation. By pattern matching using previously published 2-D maps of yeast proteins,

several other lag phase-induced proteins were identified. These were also proteins involved in carbohydrate metabolism, translation, and biosynthesis reactions. The identified proteins together with other, yet unidentified, lag phase-induced proteins are expected to be important for yeast growth initiation and could be valuable biological markers for yeast performance. Such markers would be highly beneficial in the control and optimisation of industrial fermentations.

L37 ANSWER 5 OF 19 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2002-130563 [17] WPIDS
CROSS REFERENCE: 2002-147640 [19]
DOC. NO. CPI: C2002-040083
TITLE: Composition for treating joint function, bone function, cardiac function or inflammation comprises chondroprotective agent and sweetening agent.
DERWENT CLASS: B05 B07
INVENTOR(S): HEISEY, M T; KERN, K N; SPENCE, K E
PATENT ASSIGNEE(S): (PROC) PROCTER & GAMBLE CO; (HEIS-I) HEISEY M T; (KERN-I) KERN K N; (SPEN-I) SPENCE K E
COUNTRY COUNT: 95
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| WO 2001093831 | A2 | 20011213 | (200217)* | EN | 37 |
| RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW | | | | | |
| W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW | | | | | |
| AU 2001069730 | A | 20011217 | (200225) | | |
| US 2002132780 | A1 | 20020919 | (200264) | | |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| WO 2001093831 | A2 | WO 2001-US17716 | 20010601 |
| AU 2001069730 | A | AU 2001-69730 | 20010601 |
| US 2002132780 | A1 | US 2001-759965 | 20010112 |

FILING DETAILS:

| PATENT NO | KIND | PATENT NO |
|---|---|---|
| AU 2001069730 | A Based on | WO 200193831 |

PRIORITY APPLN. INFO: US 2001-759965 20010112; US 2000-586514 20000602
AN 2002-130563 [17] WPIDS
CR 2002-147640 [19]
AB WO 200193831 A UPAB: 20021007
NOVELTY - A composition comprises (a) chondroprotective agent and (b) sweetening agent. (a) is **gelatin**, cartilage, aminosugars, glycosaminoglycans, methylsulfonylmethane, or its precursor and/or **S-adenosylmethionine**, where (b) is other than glucose, dextrose, sucrose or fructose.

ACTIVITY - Cardiant; antiinflammatory; osteopathic; antiarteriosclerotic; antiarthritic; antidiabetic; analgesic.

No biological data given.

MECHANISM OF ACTION - None given.

USE - For treating joint function, bone function, cardiac function or inflammation (claimed); in food, beverage, pharmaceutical, over-the-counter or dietary supplement products. Also for treating, preventing, inhibiting, ceasing and/or reversing cardiac health, arthritis (e.g. osteoarthritis), osteoporosis, heart disease, atherosclerosis and pain. The composition is useful for patients who are diabetic.

ADVANTAGE - The composition has low carbohydrate content, low caloric value and/or low glycemic index. The ready-to-drink composition improves consumer acceptability and compliance resulting in improved health of the consumer.

Dwg.0/0

L37 ANSWER 6 OF 19 WPIDS (C) 2002 THOMSON DERWENT
ACCESSION NUMBER: 2002-038140 [05] WPIDS
DOC. NO. CPI: C2002-011039
TITLE: Pharmaceutical composition for increasing of mitochondria DNA copy number.
DERWENT CLASS: A96 B05
INVENTOR(S): KIM, Y M; LEE, H G
PATENT ASSIGNEE(S): (MITO-N) MITOCON LTD
COUNTRY COUNT: 1
PATENT INFORMATION:

| PATENT NO | KIND | DATE | WEEK | LA | PG |
|---|---|---|---|---|---|
| KR 2001045285 | A | 20010605 | (200205)* | | 1 |

APPLICATION DETAILS:

| PATENT NO | KIND | APPLICATION | DATE |
|---|---|---|---|
| KR 2001045285 | A | KR 1999-48527 | 19991104 |

PRIORITY APPLN. INFO: KR 1999-48527 19991104
AN 2002-038140 [05] WPIDS
AB KR2001045285 A UPAB: 20020123

NOVELTY - A pharmaceutical composition for increasing mitochondria DNA copy number containing **S-adenosyl methionine** (SAM or AdoMet) is provided, which is useful for prevention and treatment of side effect accompanied by anticancer treatment and insulin-resistance syndrome from diabetes.

DETAILED DESCRIPTION - The pharmaceutical composition for increasing of mitochondria DNA copy number can be prepared in the form of a medicine for oral(e.g., tablets, **capsules**), or an injection. The tablet for increasing mitochondria DNA copy number contains **S-adenosyl methionine** (SAM or AdoMet) as a main ingredient; and diluents (e.g., lactose, dextrose, sucrose, **mannitol**, **sorbitol**, cellulose and/or glycine), lubricants (e.g., silica, talc, stearic acid or its magnesium or calcium salt, and/or polyethylene glycol), binding agents (e.g., magnesium aluminum silicate, starch paste, **gelatin**, tragacans, methylcellulose, sodium carboxy methylcellulose and/or pycolidine), and disintegrator (e.g., starch, agar, alginic acid or its sodium salt).

Dwg.1/10

L37 ANSWER 7 OF 19 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 2001546432 MEDLINE
DOCUMENT NUMBER: 21022888 PubMed ID: 11142099
TITLE: Folate deficiency in vitro induces uracil misincorporation and DNA hypomethylation and inhibits DNA excision repair in immortalized normal human colon epithelial cells.
AUTHOR: Duthie S J; Narayanan S; Blum S; Pirie L; Brand G M
CORPORATE SOURCE: Rowett Research Institute, Bucksburn, Aberdeen AB21 9SB, UK.. sd@rri.sari.ac.uk
SOURCE: NUTRITION AND CANCER, (2000) 37 (2) 245-51.
Journal code: 7905040. ISSN: 0163-5581.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200110
ENTRY DATE: Entered STN: 20011015
Last Updated on STN: 20011015
Entered Medline: 20011011

AB Epidemiological studies have indicated that folic acid protects against a variety of cancers, particularly cancer of the **colorectum**. Folate is essential for efficient DNA synthesis and repair. Moreover, folate can affect cellular **S-adenosylmethionine** levels, which regulate DNA methylation and control gene expression. We have investigated the mechanisms through which folate affects DNA stability in immortalized normal human colonocytes (HCEC). DNA strand breakage, uracil misincorporation, and DNA repair, in response to oxidative and alkylation damage, were determined in folate-sufficient and folate-deficient colonocytes by single cell **gel** electrophoresis. In addition, methyl incorporation into genomic DNA was measured using the bacterial enzyme Sss1 methylase. Cultured human colonocyte DNA contained endogenous strand breaks and uracil. Folate deficiency significantly increased strand breakage and uracil misincorporation in these cells. This negative effect on DNA stability was concentration dependent at levels usually found in human plasma (1-10 ng/ml). DNA methylation was decreased in HCEC grown in the absence of folate. Conversely, hypomethylation was not concentration dependent. Folate deficiency impaired the ability of HCEC to repair oxidative and alkylation damage. These results demonstrate that folic acid modulates DNA repair, DNA strand breakage, and uracil misincorporation in immortalized human colonocytes and that folate deficiency substantially decreases DNA stability in these cells.

L37 ANSWER 8 OF 19 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 1999347826 EMBASE
TITLE: Purification and characterization of 40-KDa sterigmatocystin O-methyltransferase involved in aflatoxin biosynthesis.
AUTHOR: Liu B.-H.; Bhatnagar D.; Chu F.S.
CORPORATE SOURCE: D. Bhatnagar, USDA, ARS, Southern Regional Research Center, New Orleans, LA 70124, United States
SOURCE: Natural Toxins, (1999) 7/2 (63-69).
Refs: 21
ISSN: 1056-9014 CODEN: NATOEE
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 029 Clinical Biochemistry

052 Toxicology
LANGUAGE: English
SUMMARY LANGUAGE: English
AB Sterigmatocystin-O-methyltransferase (ST-OMTase), an enzyme catalyzing O-methylation of sterigmatocystin with **S-adenosylmethionine** (SAM), was purified to electrophoretic homogeneity by immunoaffinity chromatography. A novel spectrofluorometric method was established to quantitatively determine the enzymatic activity of ST-OMTase. The purified protein, with a molecular weight of 40 kDa by SDS-PAGE, was sensitive to thiol reagents and low concentrations of heavy metal ions. Using a nutritional shift assay, the expression patterns for ST-OMTase and the transcripts of its corresponding gene, omtA, correlated well with that for aflatoxin B1 formation. Neither methyltransferase activity nor omtA, mRNA was detected in the fungal cultures of nonaflatoxigenic isolates, including A. flavus, A. sojae, A. nidulans and A. **versicolor** under optimal growing conditions for aflatoxin B1 production.

L37 ANSWER 9 OF 19 MEDLINE DUPLICATE 3
ACCESSION NUMBER: 94292535 MEDLINE
DOCUMENT NUMBER: 94292535 PubMed ID: 8021282
TITLE: Characterization and partial purification of mRNA N6-adenosine methyltransferase from HeLa cell nuclei. Internal mRNA methylation requires a multisubunit complex.
AUTHOR: Bokar J A; Rath-Shambaugh M E; Ludwiczak R; Narayan P; Rottman F
CORPORATE SOURCE: Department of Molecular Biology and Microbiology, Case Western Reserve University, School of Medicine, Cleveland, Ohio 44106.
CONTRACT NUMBER: CA31810 (NCI)
SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (1994 Jul 1) 269 (26) 17697-704.
Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199407
ENTRY DATE: Entered STN: 19940815
Last Updated on STN: 19970203
Entered Medline: 19940729
AB N6-Methyladenosine is found at internal positions of mRNA in higher eukaryotes. This post-transcriptional modification occurs at a frequency of one to three methylation/average mRNA molecule in mammalian cell lines and is sequence-specific. A highly conserved consensus recognition site for the methyltransferase has been determined from both viral and cellular messages, consisting of the sequence Pu(G/A)AC(U/A) (with A being methylated). Despite the ubiquity and the specificity of this modification, little is known about the mechanism of formation of N6-methyladenosine. Utilizing an in vitro methylation system from HeLa cell nuclear extracts, and a substrate RNA derived from the mRNA coding for bovine prolactin, the mRNA N6-adenosine methyltransferase has been characterized and partially purified. Unique among other characterized nucleic acid methyltransferases, the enzyme is composed of three components which are separable under non-denaturing conditions. The molecular masses of the components are 30, 200, and 875 kDa as determined by **gel** filtration and **glycerol** gradient sedimentation.
The 200-kDa component appears to contain the **S-**

**adenosylmethionine**-binding site on a 70-kDa subunit. The 875-kDa component has affinity for single-stranded DNA-agarose, suggesting that it may contain the mRNA-binding site. N6-Adenosine methyltransferase is not sensitive to treatment with micrococcal nuclease, nor to immunodepletion using an anti-trimethylguanosine antibody, suggesting that it does not contain an essential RNA component.

L37 ANSWER 10 OF 19 MEDLINE
ACCESSION NUMBER: 94230301 MEDLINE
DOCUMENT NUMBER: 94230301 PubMed ID: 8175647
TITLE: Purification of human U6 small nuclear RNA capping enzyme. Evidence for a common capping enzyme for gamma-monomethyl-capped small RNAs.
AUTHOR: Shimba S; Reddy R
CORPORATE SOURCE: Department of Pharmacology, Baylor College of Medicine, Houston, Texas 77030.
CONTRACT NUMBER: GM 38320 (NIGMS)
SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (1994 Apr 29) 269 (17) 12419-23.
Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199406
ENTRY DATE: Entered STN: 19940620
Last Updated on STN: 19970203
Entered Medline: 19940606

AB To understand the mechanism of gamma-monomethyl (meppp) cap formation, we attempted to identify and purify the U6 small nuclear RNA capping enzyme. Although more than one protein was cross-linked to U6, 7SK, B2, or plant U3 RNA, only one protein of approximately 130 kDa was common to all four meppp-capped RNAs; 5 S RNA, which is an uncapped RNA, was not cross-linked to this protein. In addition to specific cross-linking with meppp-capped RNAs, an approximately 130-kDa protein was also cross-linked to 3H-labeled AdoMet. We purified the capping enzyme from a HeLa cell S-100 extract by several successive chromatographic steps, and an approximately 130-kDa protein was purified along with the capping activity. The capping activity and the approximately 130-kDa protein also cosedimented on a **glycerol** gradient. The purified enzyme catalyzed meppp cap formation of U6, 7SK, B2, and plant U3 RNA, and this enzyme is probably responsible for the capping of multiple RNAs in vivo. The capping activity is distinct from U6 snRNA N6-adenosine methyltransferase, and this is the first methyltransferase to be purified that methylates gamma-phosphate residues in RNAs.

L37 ANSWER 11 OF 19 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.
ACCESSION NUMBER: 94272996 EMBASE
DOCUMENT NUMBER: 1994272996
TITLE: Heterologous expression of the bchM gene product from Rhodobacter **capsulatus** and demonstration that it encodes S-adenosyl-L-methionine:Mg- protoporphyrin IX methyltransferase.
AUTHOR: Bollivar D.W.; Jiang Z.-Y.; Bauer C.E.; Beale S.I.
CORPORATE SOURCE: Division of Biology and Medicine, Brown University,Providence, RI 02912, United States
SOURCE: Journal of Bacteriology, (1994) 176/17 (5290-5296).
ISSN: 0021-9193 CODEN: JOBAAY

COUNTRY: United States
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 004 Microbiology
LANGUAGE: English
SUMMARY LANGUAGE: English

AB The bacteriochlorophyll biosynthesis gene, bchM, from Rhodobacter **capsulatus** was previously believed to code for a polypeptide involved in formation of the cyclopentone ring of protochlorophyllide from Mg- protoporphyrin IX monomethyl ester. In this study, R. **capsulatus** bchM was expressed in Escherichia coli and the gene product was subsequently demonstrated by enzymatic analysis to catalyze methylation of Mg- protoporphyrin IX to form Mg-protoporphyrin IX monomethyl ester. Activity required the substrates Mg-protoporphyrin IX and S-adenosyl-L-methionine. 14C-labeled product was formed in incubations containing 14C-methyl- labeled S-adenosyl-L-methionine. On the basis of these and previous results, we also conclude that the bchH gene, which was previously reported to code for Mg-protoporphyrin IX methyltransferase, is most likely involved in the Mg chelation step.

L37 ANSWER 12 OF 19 MEDLINE DUPLICATE 4
ACCESSION NUMBER: 94271165 MEDLINE
DOCUMENT NUMBER: 94271165 PubMed ID: 8002954
TITLE: Purification and characterization of **S-adenosylmethionine**-protein-arginine N-methyltransferase from rat liver.
AUTHOR: Rawal N; Rajpurohit R; Paik W K; Kim S
CORPORATE SOURCE: Fels Institute for Cancer Research and Molecular Biology, Temple University School of Medicine, Philadelphia, PA 19140.
CONTRACT NUMBER: 5-P30-CA12227 (NCI)
AM09602 (NIADDK)
PR05417
SOURCE: BIOCHEMICAL JOURNAL, (1994 Jun 1) 300 ( Pt 2) 483-9.
Journal code: 2984726R. ISSN: 0264-6021.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199407
ENTRY DATE: Entered STN: 19940721
Last Updated on STN: 19980206
Entered Medline: 19940713

AB A protein methylase I (**S-adenosylmethionine** -protein-arginine N-methyltransferase; EC 2.1.1.23), with a high specificity for recombinant heterogeneous nuclear ribonucleoprotein particle (hnRNP) protein A1, was purified from rat liver. The purification method is simple and rapid; a single initial step of DEAE-cellulose DE-52 chromatography resulted in a 114-fold enrichment from the cytosol, and subsequent Sephadex G-200 chromatography and f.p.l.c. yielded a homogeneous preparation. Ouchterlony double-immunodiffusion analysis indicated that the rat liver enzyme is immunologically different from an analogous enzyme from the calf brain, nuclear protein/histone-specific protein methylase I [Ghosh, Paik and Kim (1988) J. Biol. Chem. 263, 19024-19033; Rajpurohit, Lee, Park, Paik and Kim (1994) J. Biol. Chem. 269, 1075-1082]. The purified enzyme has a molecular mass of 450 kDa on Superose chromatography and 110 kDa on SDS/PAGE, indicating that it is composed of four identical-size subunits. The Km values for protein A1 and S-adenosyl-L-methionine were 0.54 x 10(-6) and 6.3 x 10(-6) M

respectively. S-Adenosyl-L-homocysteine and sinefungin were effective inhibitors of the enzyme with Ki values of 8.4 x 10(-6) M and 0.65 x 10(-6) M respectively. Bivalent metal ions such as Zn2+, Mn2+ and Ni2+ were particularly toxic to the enzyme; at 1 mM Zn2+, 99% of the activity was inhibited. In addition, 50% of the enzyme activity was lost by treatment with 0.12 mM p-chloromercuribenzoate, indicating a requirement for a thiol group for enzyme activity. **Glycerol**, a compound often used to prevent enzyme inactivation, inhibited over 80% of the activity when present in the reaction mixture at a concentration of 20%.

L37 ANSWER 13 OF 19 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1991:369420 BIOSIS
DOCUMENT NUMBER: BA92:57645
TITLE: CHARACTERIZATION OF MAIZE POLLEN FLAVONOID 3'-O METHYLTRANSFERASE ACTIVITY AND ITS IN-VIVO PRODUCTS.
AUTHOR(S): TOBIAS R B; LARSON R L
CORPORATE SOURCE: 304 CURTIS HALL, UNIV. MISSOURI, COLUMBIA, MO. 65211, USA.
SOURCE: BIOCHEM PHYSIOL PFLANZ (BPP), (1991) 187 (3), 243-250. CODEN: BPPFA4. ISSN: 0015-3796.
FILE SEGMENT: BA; OLD
LANGUAGE: English

AB An enzyme which catalyzes the methylation of quercetin at the 3'-position was isolated and partially characterized from maize pollen. The enzyme, SAM: quercetin-3'-0-methyltransferase (EC# 2.1.1.42), was purified 60-fold by a combination of salt fractionation and column chromatographic steps. The enzymes was eluted from freeze-dried pollen with NaCl, the supernatant precipitated with ammonium sulfate, subsequently desalted by Sephadex G-50 **gel** filtration, and partially purified by Sephadex DEAE anion exchange chromatography, ultrafiltration, and Sephadex G-200 **gel** filtration. The methyltransferase assay required **S-adenosylmethionine** as the methyl donor, dithioerythritol and Mg+2 or Mn+2 in the reaction mixture. Optimum conditions for the reaction were pH 8.5 and 38.degree.C. The enzyme could be stabilized and activity maintained by the addition of 20% **glycerol** prior to storage at -70.degree.C. S-Adenosylhomocysteine, a reaction product, and mercuric chloride strongly inhibited the methylation reaction. The transferase utilized either quercetin a flavonal, luteolin, a flavone, or eriodictyol, a flavanone, as substrates, whereas neither isoquercitrin (quercetin 3-glucoside) nor caffeic acid served as a subbstrate. The type of substrates methylated by the enzyme sugest that methylation occurs on the fifteen carbon skeleton prior to glycosylation which is known to occur near the end of the reaction sequence. The Km values for SAM and quercetin were 5.5 .mu.M and 9.6 .mu.M, respectively, and the Vmax was 37.3 .times. 10-2 pkat. The molecular weight for the transferase was estimated at 47,000. The product of the enzyme reaction, isorhamnetin, was identifed in extracts of pollen stocks singly recessive for the genes C1, C2, R, A1, A2, Bz1, Bz2. However, none of these genes could be shown to have any direct regulatory effect on the methyltransferase.

L37 ANSWER 14 OF 19 MEDLINE DUPLICATE 5
ACCESSION NUMBER: 87242342 MEDLINE
DOCUMENT NUMBER: 87242342 PubMed ID: 3593683
TITLE: Isolation and characterization of a nucleolar 2'-O-methyltransferase from Ehrlich ascites tumor cells.
AUTHOR: Eichler D C; Raber N K; Shumard C M; Eales S J
CONTRACT NUMBER: RO1 GM29162-4 (NIGMS)
SOURCE: BIOCHEMISTRY, (1987 Mar 24) 26 (6) 1639-44. Journal code: 0370623. ISSN: 0006-2960.

PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198707
ENTRY DATE: Entered STN: 19900305
Last Updated on STN: 19970203
Entered Medline: 19870724

AB A 2'-O-methyltransferase that transfers the methyl group from **S-adenosylmethionine** to the 2'-hydroxyl group of ribose moieties of RNA has been purified from Ehrlich ascites tumor cell nucleoli. The partially purified enzyme is devoid of other RNA methylase activities and is free of ribonucleases. The enzyme has optimal activity in tris(hydroxymethyl)aminomethane buffer, pH 8.0, in the presence of 0.4 mM ethylenediaminetetraacetic acid, 2 mM dithiothreitol, and 50 mM KCl, and has an apparent Km for **S-adenosylmethionine** of 0.44 microM. **Gel** filtration studies of this enzyme gave a Stokes radius of 43 A. Sedimentation velocity measurements in **glycerol** gradients yield an S20,w of 8.0 S. From these values, a native molecular weight of 145,000 was calculated. The enzyme catalyzes the methylation of synthetic homoribopolymers as well as 18S and 28S rRNA; however, poly(C) is the preferred synthetic substrate, and preference for unmethylated sequences of rRNA was observed. For each RNA substrate examined, only methylation of the 2'-hydroxyl group of the ribose moieties was detected.

L37 ANSWER 15 OF 19 MEDLINE DUPLICATE 6
ACCESSION NUMBER: 86061611 MEDLINE
DOCUMENT NUMBER: 86061611 PubMed ID: 2999302
TITLE: Genetic and biochemical characterization of the red gene cluster of Streptomyces **coelicolor** A3(2).
AUTHOR: Feitelson J S; Malpartida F; Hopwood D A
SOURCE: JOURNAL OF GENERAL MICROBIOLOGY, (1985 Sep) 131 ( Pt 9) 2431-41.
Journal code: 0375371. ISSN: 0022-1287.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198601
ENTRY DATE: Entered STN: 19900321
Last Updated on STN: 19900321
Entered Medline: 19860122

AB Production of the red antibiotic, undecylprodigiosin, by Streptomyces **coelicolor** A3(2) was studied by DNA cloning and biochemical analysis. Over 21 kb of genomic DNA were cloned, in several segments, into plasmid vectors. The cloned DNA 'complemented' several specific mutations in the red gene cluster. Four red genes (redA, B, E, and F) were mapped to different regions within the cloned DNA. Screening with redE probes for DNA homologies among various streptomycetes revealed hybridizing DNA in three strains, one of them not known to synthesize prodigiosin pigments. Biochemical studies using protoplasted cells revised our interpretation of the nature of redE and redF mutations. Two forms of undecylnorprodigiosin: **S-adenosylmethionine** O-methyltransferase activity on **gel** filtration columns were detected: a very high molecular mass peak (greater than 5 MDal) and a 49 kDal) and a 49 kDal peak. Analyses of extracts from red mutants suggested that these two forms are related, and that at least the redE and redF gene products are necessary for O-methyltransferase activity in vivo. Lack of activity of the redE gene in

a heterologous host, S. glaucescens, is consistent with the necessity for a biosynthetic complex involving several red gene products for efficient expression. Experiments in liquid antibiotic production medium indicated that prodigiosin compounds in S. **coelicolor** are examples of 'secondary metabolites' whose synthesis lags behind that of cell mass. The peak of specific activity of O-methyltransferase coincided with the 'late exponential' phase of growth. Thus, understanding the genetic regulation of undecylprodigiosin biosynthesis in S. **coelicolor** may be relevant to other antibiotic production pathways, and perhaps to 'secondary' metabolism in general.

L37 ANSWER 16 OF 19 MEDLINE DUPLICATE 7
ACCESSION NUMBER: 81160706 MEDLINE
DOCUMENT NUMBER: 81160706 PubMed ID: 7213623
TITLE: Multiple species of mammalian **S-adenosylmethionine** synthetase. Partial purification and characterization.
AUTHOR: Okada G; Teraoka H; Tsukada K
SOURCE: BIOCHEMISTRY, (1981 Feb 17) 20 (4) 934-40. Journal code: 0370623. ISSN: 0006-2960.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 198106
ENTRY DATE: Entered STN: 19900316
Last Updated on STN: 19970203
Entered Medline: 19810623

AB Two species of **S-adenosylmethionine** (S-Ado-Met) synthetase (EC 2.5.1.6) exist in rat liver cytosol and a distinct species of the enzyme exists in kidney cytosol. S-Ado-Met synthetases alpha and beta in rat liver cytosol have been partially purified about 200- and 80-fold, respectively. The apparent molecular weight estimated by **gel** filtration and the sedimentation coefficient are 210 000 and 9 S for S-Ado-Met synthetase alpha and 160 000 and 5.5 S for S-Ado Met synthetase beta. Both enzymes absolutely require Mg2+ and K+ for the activity and are completely inhibited by p-(chloromercuri)-benzoate. Kinetic studies indicate that S-Ado-Met synthetases alpha and beta exhibit negative cooperativity with low S0.5 (ligand concentration required for half-maximal velocity) for L-methionine (17 microM) and ATP (0.5 mM) and positive cooperativity with much higher S0.5 values (S0.5 (L-methionine) = 0.5 mM, S0.5 (ATP) = 2 mM), respectively. The cryoprotectants dimethyl sulfoxide and **glycerol** markedly lower the S0.5 values of S-Ado-Met synthetase beta without significant effect on Vmax. A single species of S-Ado-Met synthetase has been purified about 1000-fold from rat kidney cytosol. The kidney enzyme, termed S-Ado-Met synthetase gamma, has an apparent molecular weight of 190 000 and a sedimentation coefficient of 7.5 S and is resistant to the inhibition by p-(chloromercuri)benzoate. S-Ado-Met synthetase gamma exhibits slightly negative cooperativity with an apparent S0.5 value for L-methionine of 6 microM and for ATP of 70 microM.

L37 ANSWER 17 OF 19 MEDLINE DUPLICATE 8
ACCESSION NUMBER: 78218289 MEDLINE
DOCUMENT NUMBER: 78218289 PubMed ID: 670234
TITLE: Purification of the "corrinoid" enzyme involved in the synthesis of acetate by Clostridium thermoaceticum.
AUTHOR: Welty F K; Wood H G

SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (1978 Aug 25) 253 (16) 5832-8.
Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 197809
ENTRY DATE: Entered STN: 19900314
Last Updated on STN: 19970203
Entered Medline: 19780930

AB A corrinoid enzyme has been purified to approximately 80% homogeneity from Clostridium thermoaceticum. It catalyzes the formation of acetate from N5-methyltetrahydrofolate and pyruvate in combination with the required supplementary enzymes which are supplied by an extract that has been treated with propyl iodide. The enzyme was purified by chromatography on a folate affinity column and a DEAE-Bio-**Gel** column and by ultrafiltration. The molecular weight as determined by sedimentation equilibrium is 158,000 and the sedimentation coefficient is 10.5 S. By **gel** electrophoresis in sodium dodecyl sulfate, the subunit molecular weight was found to be 40,000, thus, the enzyme may be a tetramer of four similar subunits. The results of electron microscopy confirmed the tetrameric structure. In the absence of sodium dodecyl sulfate, two bands of similar intensity were observed by electrophoresis, but both yielded the 40,000 molecular weight subunit in the presence of sodium dodecyl sulfate. These results indicate the two bands represent either two different molecular weight forms of the enzyme or two differently charged isoenzymes. The enzyme is quite labile being sensitive to dilution, aerobic conditions, and light. Dithiothreitol and **glycerol** were found to stabilize the enzyme. The cofactor requirements for acetate synthesis have been determined. ATP, thiamin pyrophosphate, **S-adenosylmethionine**, and Fe2+ were found to be required for maximum activity and the Km values were determined. High concentrations of methyltetrahydrofolate, pyruvate, and **S-adenosylmethionine** were found to inhibit the synthesis of acetate.

L37 ANSWER 18 OF 19 MEDLINE DUPLICATE 9
ACCESSION NUMBER: 78194168 MEDLINE
DOCUMENT NUMBER: 78194168 PubMed ID: 659428
TITLE: Purification of mRNA guanylyltransferase from vaccinia virions.
AUTHOR: Monroy G; Spencer E; Hurwitz J
SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (1978 Jun 25) 253 (12) 4481-9.
Journal code: 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 197808
ENTRY DATE: Entered STN: 19900314
Last Updated on STN: 19900314
Entered Medline: 19780828

AB GTP:RNA guanylyltransferase, the enzyme which catalyzes the guanylylation of the 5' termini of viral mRNAs, has been isolated and purified approximately 10,000-fold from cores of vaccinia virus. **S-adenosyl-methionine**:mRNA (guanine-7)-methyltransferase

copurified with guanylyltransferase activity through chromatography on DNA agarose, phosphocellulose, and centrifugation in **glycerol** gradients, suggesting that the two activities are closely associated. The molecular weight of native guanylyltransferase- and 7-methyltransferase-associated activities was approximately 120,000 as determined by **glycerol** gradient centrifugation. Guanylytransferase purified by electrophoresis on polyacrylamide **gels** at pH 4.5 lacked 7-methyltransferase activity. Analysis by electrophoresis on sodium dodecyl sulfate-polyacrylamide **gels** of electrophoretically purified native guanylyltransferase showed the presence of one major band of polypeptide which had a molecular weight of approximately 59,000.

L37 ANSWER 19 OF 19 JAPIO COPYRIGHT 2002 JPO
ACCESSION NUMBER: 2002-145783 JAPIO
TITLE: **ENCAPSULATED** PHARMACEUTICAL PREPARATION CONTAINING **S-ADENOSYLMETHIONINE** OR ITS SALTS
INVENTOR: UCHIDA YOSUKE; MIYA TOYOFUMI; SATO KOJI; YOKOYAMA ATSUSHI; FUKAZAWA TAKEHITO; SUGII YOSHIHISA
PATENT ASSIGNEE(S): KOHJIN CO LTD
MIYAKO KAGAKU CO LTD
ARIMENTO KOGYO KK
PATENT INFORMATION:

| PATENT NO | KIND | DATE | ERA | MAIN IPC |
|---|---|---|---|---|
| JP 2002145783 | A | 20020522 | Heisei | A61K031-7076 |

APPLICATION INFORMATION
STN FORMAT: JP 2000-338007 20001106
ORIGINAL: JP2000338007 Heisei
PRIORITY APPLN. INFO.: JP 2000-338007 20001106
SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2002
AN 2002-145783 JAPIO
AB PROBLEM TO BE SOLVED: To provide an **encapsulated** pharmaceutical preparation containing **S-adenosylmethionine** or its salts, capable of being easily taken by every body, and being expected that its medicinal effect is easily developed.
SOLUTION: This **encapsulated** pharmaceutical preparation is prepared by **encapsulating** a liquid in a **capsule** casing consisting mainly of **gelatin**, wherein the liquid is obtained by dispersing or suspending the **S-adenosylmethionine** or its salts in an oily liquid. A mixture which is obtained by adding an emulsifier and a thickener to an oil is preferably used as the oily liquid.

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L42 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2001:669641 HCAPLUS
DOCUMENT NUMBER: 135:369627
TITLE: Adhesion of epithelial cells to fibronectin or collagen I induces alterations in gene expression via a protein kinase C-dependent mechanism
AUTHOR(S): Lam, Kirby; Zhang, Lianfeng; Yamada, Kenneth M.; Lafrenie, Robert M.
CORPORATE SOURCE: Northeastern Ontario Regional Cancer Centre, Sudbury, ON, P3E-5J1, Can.
SOURCE: Journal of Cellular Physiology (2001), 189(1), 79-90
CODEN: JCLLAX; ISSN: 0021-9541
PUBLISHER: Wiley-Liss, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Adhesion of human salivary gland (HSG) epithelial cells to fibronectin- or collagen I **gel-coated** substrates, mediated by .beta.1 integrins, has been shown to upregulate the expression of more than 30 genes within 3-6 h. Adhesion of HSG cells to fibronectin or collagen I for 6 h also enhanced total protein kinase C (PKC) activity by 1.8-2.3-fold. HSG cells expressed PKC-.alpha., .gamma., .delta., .epsilon., .mu., and .zeta.. Adhesion of HSG cells to fibronectin or collagen I specifically activated PKC-.gamma. and PKC-.delta.. Cytoplasmic PKC-.gamma. and PKC-.delta. became membrane-assocd., and immunopptd. PKC-.gamma. and PKC-.delta. kinase activities were enhanced 2.5-4.0-fold in HSG cells adherent to fibronectin or collagen I. In addn., adhesion of fibronectin-**coated** beads to HSG monolayers co-aggregated .beta.1 integrin and PKC-.gamma. and PKC-.delta. but not other PKC isoforms. Thus, integrin-dependent adhesion of HSG cells to fibronectin or collagen I activated PKC-.gamma. and PKC-.delta.. The role of this PKC upregulation on adhesion-responsive gene expression was then tested. HSG cells were treated with the specific PKC inhibitor bisindolylmaleimide I, cultured on non-**precoated**, fibronectin- or collagen I-**coated** substrates, and analyzed for changes in adhesion-responsive gene expression. Bisindolylmaleimide I strongly inhibited the expression of seven adhesion-responsive genes including calnexin, decorin, **S-adenosylmethionine** decarboxylase, steroid sulfatase, and 3 mitochondrial genes. However, the expression of two adhesion-responsive genes was not affected by bisindolylmaleimide I. Treatment with bisindolylmaleimide I did not affect cell spreading and did not significantly affect the actin cytoskeleton. These data suggest that adhesion of HSG cells to fibronectin or collagen I induces PKC activity and that this induction contributes to the upregulation of a variety of adhesion-responsive genes.
REFERENCE COUNT: 74 THERE ARE 74 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:679263 HCAPLUS
DOCUMENT NUMBER: 134:188814
TITLE: Re-annotating the Mycoplasma pneumoniae genome sequence: adding value, function and reading frames
AUTHOR(S): Dandekar, Thomas; Huynen, Martijn; Regula, Jorg Thomas; Ueberle, Barbara; Zimmermann, Carl Ulrich; Andrade, Miguel A.; Doerks, Tobias; Sanchez-Pulido,

Luis; Snel, Berend; Suyama, Mikita; Yuan, Yan P.; Herrmann, Richard; Bork, Peer
CORPORATE SOURCE: EMBL, Heidelberg, D-69012, Germany
SOURCE: Nucleic Acids Research (2000), 28(17), 3278-3288
CODEN: NARHAD; ISSN: 0305-1048
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Four years after the original sequence submission, we have re-annotated the genome of Mycoplasma pneumoniae to incorporate novel data. The total no. of ORFss has been increased from 677 to 688 (10 new proteins were predicted in intergenic regions, two further were newly identified by mass spectrometry and one protein ORF was dismissed) and the no. of RNAs from 39 to 42 genes. For 19 of the now 35 tRNAs and for six other functional RNAs the exact genome positions were re-annotated and two new tRNALeu and a small 200 nt RNA were identified. Sixteen protein reading frames were extended and eight shortened. For each ORF a consistent annotation vocabulary has been introduced. Annotation reasoning, annotation categories and comparisons to other published data on M. pneumoniae functional assignments are given. Exptl. evidence includes 2-dimensional **gel** electrophoresis in combination with mass spectrometry as well as gene expression data from this study. Compared to the original annotation, we increased the no. of proteins with predicted functional features from 349 to 458. The increase includes 36 new predictions and 73 protein assignments confirmed by the published literature. Furthermore, there are 23 redns. and 30 addns. with respect to the previous annotation. MRNA expression data support transcription of 184 of the functionally unassigned reading frames.
REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT